SOUTHERN UTAH MUSEUM OF ART

FINAL REVIEW SUBMITTAL

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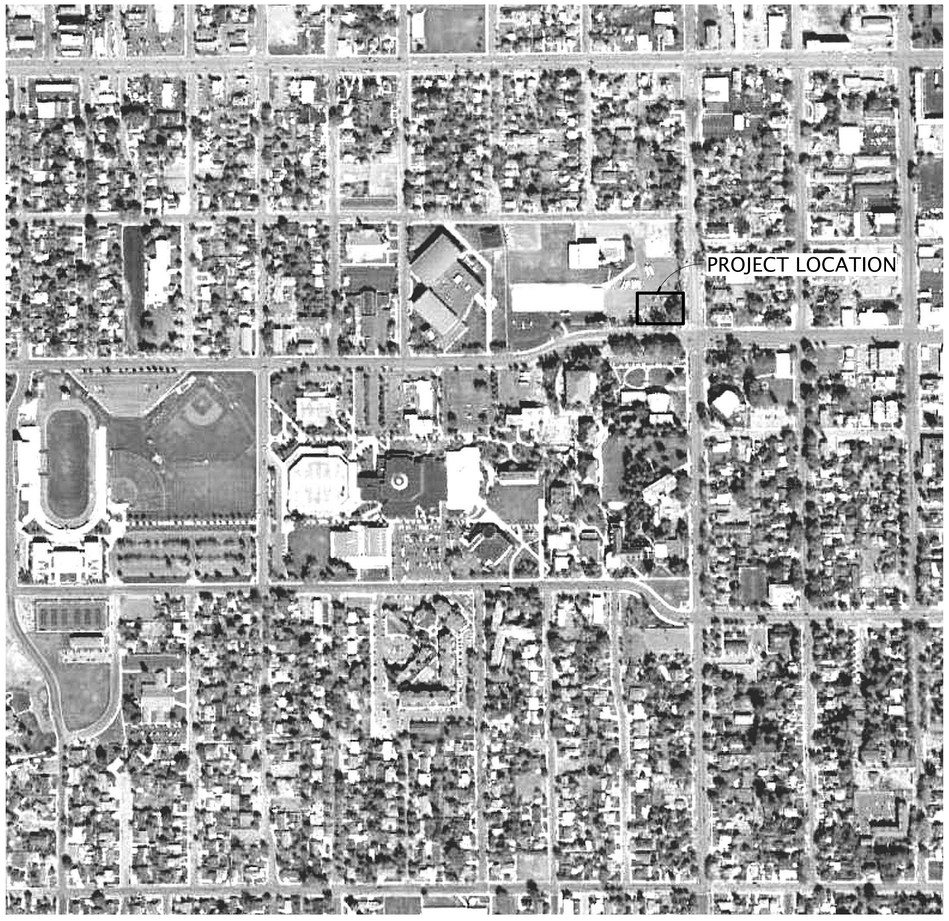
SOUTHERN UTAH MUSEUM OF ART

351 WEST UNIVERSITY BOULEVARD
CEDER CITY, UT 84720

Division of Facilities Construction Management, Southern Utah University

GSBS PROJECT NO.: 2010.084.00
ISSUED DATE: 05/16/2012

VICINITY MAP



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LIGHTING	
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ABBREVIATIONS

#	NUMBER
@	AT
℄	CENTER LINE
⌀	DIAMETER
∠	ANGLE
3L	THREE LAYERS
A.B.	ANCHOR BOLT
ABV.	ABOVE
ADJ.	ADJUSTABLE
A.F.F.	ABOVE FINISH FLOOR
A.I.A.	AMERICAN INSTITUTE OF ARCHITECTS
ALUM.	ALUMINUM
APPROX.	APPROXIMATE
ARCH.	ARCHITECTURAL
A.S.T.M.	AMERICAN SOCIETY FOR TESTING MATERIALS
D.B.A.	DEFORMED BAR ANCHOR
BD.	BOARD
BITUM.	BITUMINOUS
BLDG.	BUILDING
B.M.	BENCHMARK
B.O.	BOTTOM OF
BOT.	BOTTOM
B.P.	BASE PLATE
BRG.	BEARING
BTWN.	BETWEEN
CER.	CERAMIC
C.J.	CONSTRUCTION JOINT
CLG.	CEILING
CLR.	CLEAR
CMU	CONCRETE MASONRY UNIT
COL.	COLUMN
CONC.	CONCRETE
CONT.	CONTINUOUS
CONST.	CONSTRUCTION
COORD.	COORDINATE
C.P.	CAP PLATE
C.T.J.	CONTRACTION JOINT
DBL.	DOUBLE
DEPT	DEPARTMENT
DET.	DETAIL
DIA.	DIAMETER
DTL.	DETAIL
DWGS.	DRAWINGS
EA.	EACH
E.F.	EACH FACE
E.J.	EXPANSION JOINT
EL.	ELEVATION
ELEV.	ELEVATION
EQ.	EQUAL
E.S.	EACH SIDE
E.W.	EACH WAY
EXIST.	EXISTING
EXPAN.	EXPANSION
EXT.	EXTERIOR
E.W.C.	ELECTRIC WATER COOLER
F.D.	FLOOR DRAIN
FDN.	FOUNDATION
FDTN.	FOUNDATION
F.E.	FIRE EXTINGUISHER
F.E.C.	FIRE EXTINGUISHER CABINET
F.F.	FINISH FLOOR
FIN.	FINISH
FLR.	FLOOR
FT.	FEET
FTG.	FOOTING
GA.	GAGE/GAUGE
GAL.	GALLON
GALV.	GALVANIZED
GFCI	GOVERNMENT FURNISHED CONTRACTOR INSTALLED
GFGI	GOVERNMENT FURNISHED GOVERNMENT INSTALLED
GPM	GALLONS PER MINUTE
GND.	GROUND
GOVT.	GOVERNMENT
GWB.	GYPSUM WALL BOARD
GYP. BD.	GYPSUM WALL BOARD
HC.	HANDICAPPED
HDW.	HARDWARE
H.M.	HOLLOW METAL
HORIZ.	HORIZONTAL
HR.	HOUR
H.S.A.	HEADED STUD ANCHOR
HT.	HEIGHT
HVAC	HEATING/VENTILATION/ AIR CONDITIONING
HYD	HYDRANT
I.D.	INSIDE DIAMETER
I.F.	INSIDE FACE
IN.	INCHES
INFO.	INFORMATION
INSUL.	INSULATION
LAV.	LAVATORY
LT.	LIGHT
LT. WT.	LIGHT WEIGHT
MAINT.	MAINTENANCE
MANUF.	MANUFACTURER
MAX.	MAXIMUM
MAT.	MATERIAL
M.C.J.	MASONRY CONTROL JOINT
MECH.	MECHANICAL
MFR.	MANUFACTURER
MIN.	MINIMUM
MISC.	MISCELLANEOUS
M.O.	MASONRY OPENING
MTL.	METAL
N.I.C.	NOT IN CONTRACT
NO.	NUMBER
N.T.S.	NOT TO SCALE
O.C.	ON CENTER
O.D.	OUTSIDE DIAMETER
O.F.	OUTSIDE FACE
O.H.	OVERHEAD
OHD	OVERHEAD DOOR
OPP.	OPPOSITE
O.W.S.J.	OPEN WEB STEEL JOIST
PART.	PARTITION
P.C.F.	POUNDS PER CUBIC FOOT
PERP.	PERPENDICULAR
PL.	PLATE
P.L.F.	POUNDS PER LINEAL FOOT
PNTD.	PAINTED
PROT.	PROTECTION
P.S.F.	POUNDS PER SQUARE FOOT
P.S.I.	POUNDS PER SQUARE INCH
QTY.	QUANTITY
R.D.	ROOF DRAIN
RAD.	RADIUS
REINF.	REINFORCED
REQ'D	REQUIRED
RM.	ROOM
R.O.	ROUGH OPENING
SCHED.	SCHEDULE
S.D.I.	STEEL DECK INSTITUTE
SHR.	SHOWER
SHT.	SHEET
SIM.	SIMILAR
S.J.I.	STEEL JOIST INSTITUTE
SPEC.	SPECIFICATION
STC	SOUND TRANSMISSION COEFFICIENT
STD.	STANDARD
STIFF.	STIFFENER
STR.	STRUCTURAL
SUPER.	SUPERVISOR
SUSP.	SUSPENDED
THRU	THROUGH
T.O.	TOP OF
T.O.A.	TOP OF ASPHALT
T.O.C.	TOP OF CURB
T.O.F.	TOP OF FOOTING
T.O.S.	TOP OF SLAB OR SIDEWALK
T.O.W.	TOP OF WALL
TYP.	TYPICAL
U.N.O.	UNLESS NOTED OTHERWISE
VCT	VINYL COMPOSITION TILE
VERT.	VERTICAL
VEST.	VESTIBULE
VNR.	VENEER
W/	WITH
WD.	WOOD
W.W.F.	WELDED WIRE FABRIC

GRAPHIC SYMBOLS

GRID — GRID LINES

/ SHEET — DETAIL SYMBOL
DETAIL NUMBER/
SHEET WHERE DETAIL IS DRAWN

/ SHEET — BUILDING SECTION SYMBOL
SECTION REFERENCE/
SHEET WHERE SECTION IS DRAWN

/ SHEET — WALL SECTION SYMBOL
SECTION REFERENCE/
SHEET WHERE SECTION IS DRAWN

SHEET # — INTERIOR ELEVATION SYMBOL
ELEVATION IDENTIFICATION
SHEET WHERE ELEVATION IS DRAWN

ELEVATION CONTROL POINT
OR DATUM POINT

100A — DOOR NUMBER

W1 — WINDOW OR STOREFRONT NUMBER

NAME
101 — ROOM NAME
ROOM NUMBER

1 — REVISION

1 — KEYNOTE

/ SHEET, # / SCALE/ REF SHEET — VIEW NAME SYMBOL
VIEW NUMBER/
SHEET WHERE VIEW IS LOCATED/
VIEW NAME/
VIEW SCALE
REFERENCING SHEET

NOTE:
REFERENCING SHEET PARAMETER IS ONLY SHOWN FOR SPECIFIC VIEWS/DETAILS TO ASSIST IN FINDING WHICH SHEEET THE DETAIL IS REFERENCED FROM. REFERENCING SHEET INDICATES ONE LOCATION FOR THE DETAIL BUT DETAIL COULD OCCUR IN MULTIPLE LOCATIONS.

MATERIALS/LEGEND

- CONCRETE MASONRY UNIT
- FACE BRICK
- CONCRETE (POURED IN PLACE)
- GYPSUM BOARD OR SETTING BEDS
- INSULATION (BATT & BLANKET)
- INSULATION (RIGID/SEMI-RIGID)
- PLYWOOD
- CONTINUOUS ROUGH WOOD
- BLOCKING, ROUGH WOOD
- METAL (LARGE SCALE)
- GRAVEL
- EARTH
- QUARRY/CERAMIC TILE

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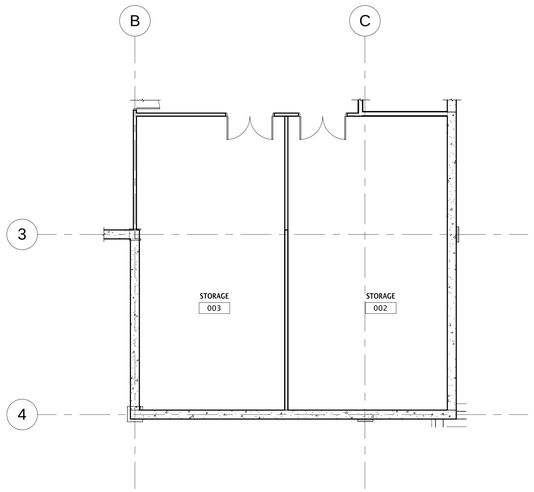
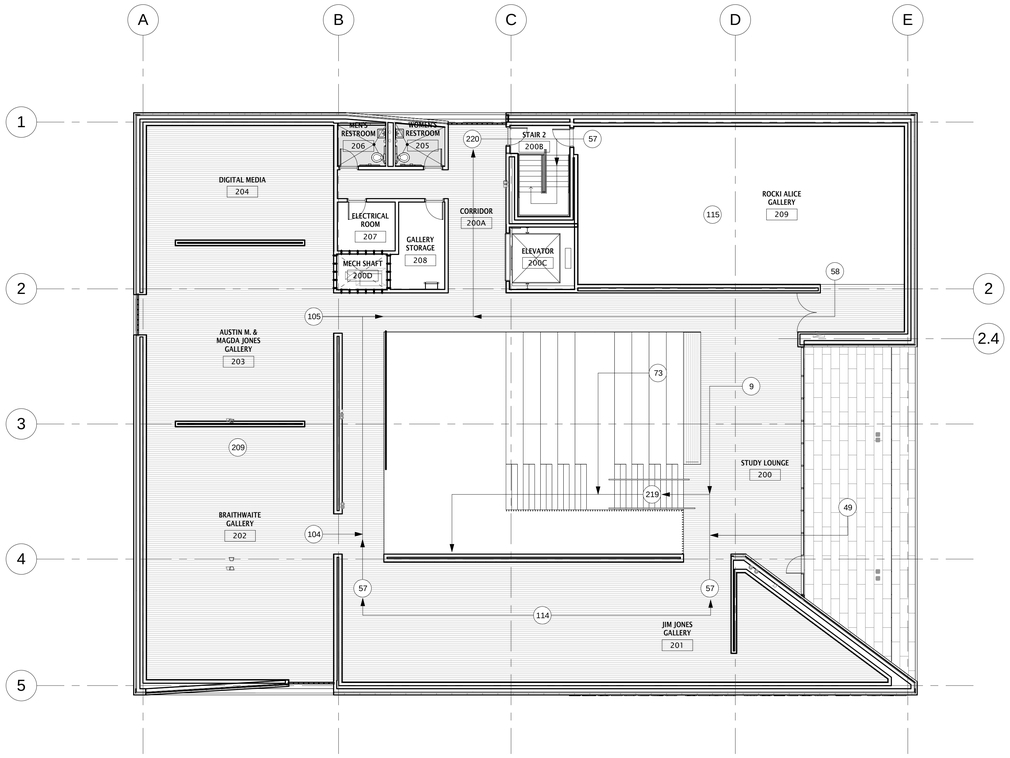
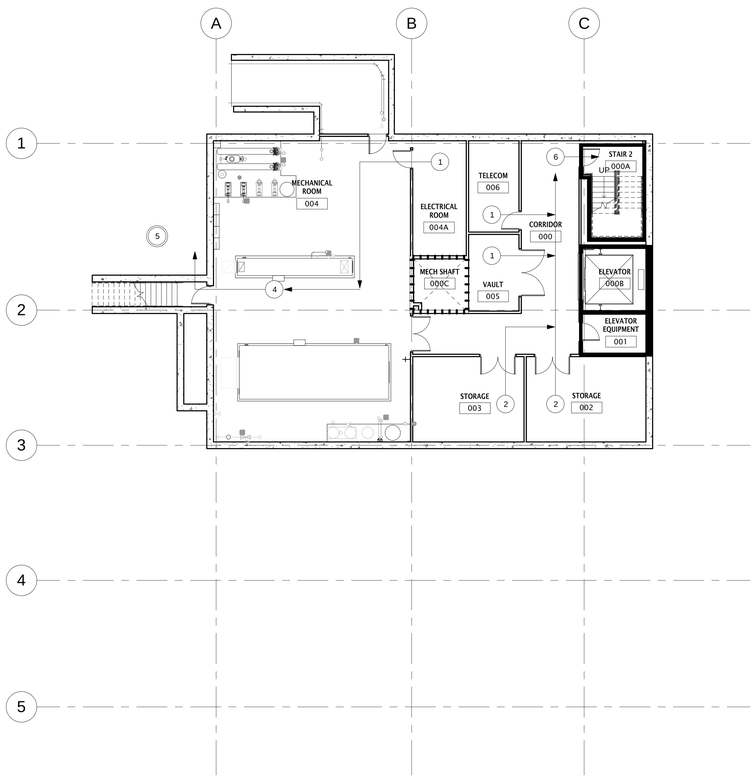
G001



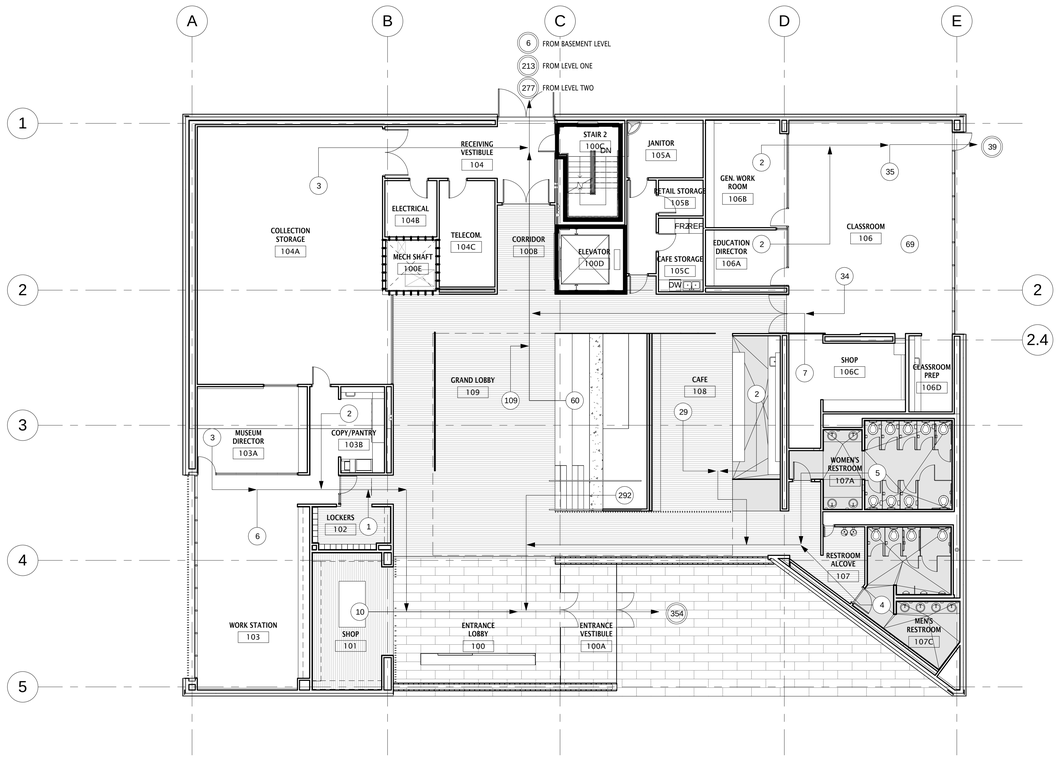
4 G101 BASEMENT LEVEL BID ALTERNATE 1 CODE PLAN
1/8" = 1'-0"



2 G101 LEVEL 2 CODE PLAN
3/32" = 1'-0"



3 G101 BASEMENT LEVEL CODE PLAN
3/32" = 1'-0"



1 G101 LEVEL 1 CODE PLAN
3/32" = 1'-0"

CODE ANALYSIS

APPLICABLE CODES

	Year		Year
International Building Code	2009	National Electrical Code	2009
International Mechanical Code	2009	Uniform Code for Building Conservation	2009
International Fuel Gas Code	2009		
International Plumbing Code	2009	ADA Accessibility Guidelines	2009
International Fire Code	2009		
International Energy Conservation Code	2009		

A. Occupancy and Group: A-3

Change in Use: Yes ___ No X Mixed Occupancy: Yes ___ No X
Special Use and Occupancy (e.g. High Rise, Covered Mall): NO

B. Seismic Design Category: D Design Wind Speed: 90 mph

C. Type of Construction (circle one):

I/A I/B II/A II/B III/A III/B IV/HT V/A V/B

D. Fire Resistance Rating Requirements for the Exterior Walls based on the fire separation distance (in hours):

North: 0 HR South: 0 HR East: 0 HR West: 0 HR

E. Mixed Occupancies: NO Nonseparated Uses: YES

F. Sprinklers:

Required: X Provided: X

Type of Sprinkler System (IBC 903.3.1) NFPA 13

G. Number of Stories: 2 Building Height: 39'

H. Actual Area per Floor (square feet): BASEMENT-4,883SF LEVEL 1-12,088SF LEVEL 2-11,096SF

I. Tabular Area: (table 503): 9,500 SF/FLOOR

J. Area Modifications:

a) $A_a = \{A_t + [A_t \times I_f] + [A_t \times I_s]\}$ $I_f = [F/P - 0.25]\ W/30$

$I_f = [0.5 - 0.25]\ 1 = 0.25$ $I_s = 2$

$A_a = \{9{,}500 + [9{,}500 \times 0.25] + [9{,}500 \times 2]\}$

$A_a = \{9{,}500 + 2{,}375 + 19{,}000\}$

$A_a =$ 30,857 SF/FLOOR

b) Sum of the Ratio Calculations for Mixed Occupancies:

$\frac{\text{Actual Area}}{\text{Allowable Area}} = 1$

c) Total Allowable Area for:
1) One Story: 30,875
2) Two Story: $A_a(2)$ 61,750
3) Three Story: $A_a(3)$ N/A

d) Unlimited Area Building: Yes ___ No X Code Section: ___

K. Fire Resistance Rating Requirements for Building Elements (hours).

Element	Hours	Assembly Listing	Element	Hours	Assembly Listing
Exterior Bearing Walls	0		Floors - Ceiling Floors	0	
Interior Bearing Walls	0		Roofs - Ceiling Roofs	0	
Exterior Non-Bearing Walls	0		Exterior Doors and Windows	0	
Structural Frame	0		Shaft Enclosures	1	
Partitions - Permanent	0		Fire Walls	2	
Fire Barriers	2		Fire Partitions	1	
			Smoke Partitions		

L. Design Occupant Load: 940
Exit Width Required: 141" Exit Width Provided: 204"

M. Minimum Number of Required Plumbing Facilities:
a) Water Closets - Required (m) 6 (f) 9 Provided (m) 5 (f) 10
b) Urinals - Required (m) 3 (f) N/A Provided (m) 3 (f) ___
c) Lavatories - Required (m) 5 (f) 5 Provided (m) 5 (f) 5
d) Bath Tub or Showers: N/A
e) Drinking Fountains: 2 Service Sinks: 1

FOOTNOTES:

1) In case of conflict with the U.S. Department of Justice Federal Registers Parts I through V - ADA guidelines and specific reference to the International Building Code Accessibility Chapters, the more requirements shall govern.

2) Additional Code Information shall be provided at the discretion of the Building Official for Complex Buildings. Including, but not all limited to:
a) High Rise Requirements.
b) Atriums.
c) Performance Based Criteria.
d) Means or Egress Analysis.
e) Fire Assembly Locator Sheet.
f) Exterior and Interior Accessibility Route.
g) Fire Stopping, Including Tested Design Number.

OCCUPANCY / EGRESS LEGEND

- NO. OF OCCUPANTS
- CORRIDOR TRIBUTARY LOAD
- TOTAL NO. OF OCCUPANTS AT EXIT
- FIRE EXTINGUISHER (FEC)
- 2 HR. RATED WALL
- 1 HR. RATED WALL
- 2 HR. FIREPROOF STRUCTURE-STRUCTURAL COLUMNS AND BEAMS
- OCCUPANCY TYPE S2
- OCCUPANCY TYPE A3
- OCCUPANCY IS TYPE B UNLESS NOTED OTHERWISE

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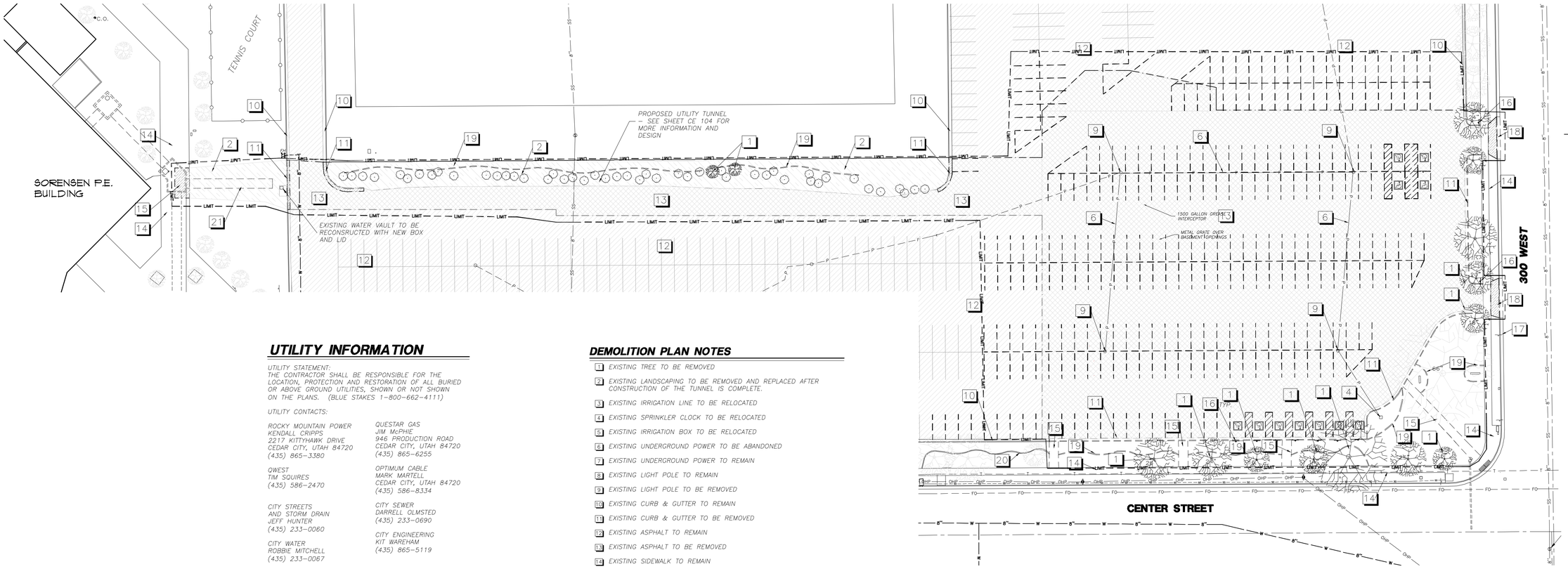

SITE DEMOLITION PLAN

SCALE: 1"=30'

UTILITY INFORMATION

UTILITY STATEMENT:
THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE LOCATION, PROTECTION AND RESTORATION OF ALL BURIED OR ABOVE GROUND UTILITIES, SHOWN OR NOT SHOWN ON THE PLANS. (BLUE STAKES 1-800-662-4111)

UTILITY CONTACTS:

ROCKY MOUNTAIN POWER
KENDALL CRIPPS
2217 KITTYHAWK DRIVE
CEDAR CITY, UTAH 84720
(435) 865-3380

QWEST
TIM SQUIRES
(435) 586-2470

CITY STREETS
AND STORM DRAIN
JEFF HUNTER
(435) 233-0060

CITY WATER
ROBBIE MITCHELL
(435) 233-0067

QUESTAR GAS
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(435) 865-6255

OPTIMUM CABLE
MARK MARTELL
CEDAR CITY, UTAH 84720
(435) 586-8334

CITY SEWER
DARRELL OLMSTED
(435) 233-0690

CITY ENGINEERING
KIT WAREHAM
(435) 865-5119

GENERAL NOTES

1. UTILITY LOCATIONS MUST BE VERIFIED IN THE FIELD BY THE CONTRACTOR. THE CONTRACTOR MUST CALL SUU FACILITIES MANAGEMENT AND BLUE STAKES PRIOR TO ANY EXCAVATION.

2. THE CONTRACTOR IS RESPONSIBLE FOR THE REMOVAL OF ALL EXISTING FEATURES THAT ARE ENCOUNTERED DURING THE DEMOLITION OF THIS SITE TO INCLUDE ANY UNKNOWN TREE STUMPS, ROOTS, SEPTIC TANKS, BURIED TANKS, ETC.

3. THE CONTRACTOR IS RESPONSIBLE FOR THE SAFETY ONSITE DURING ALL PHASES OF DEMOLITION AND CONSTRUCTION.

4. THE CONTRACTOR IS RESPONSIBLE TO WALK THE SITE WITH THE SUU GROUNDS STAFF PRIOR TO BEGINNING PROJECT.

5. CARE MUST BE TAKEN NOT TO UNREASONABLY DISTURB THE ADJACENT BUILDINGS DURING ALTERNATE PHASES OF DEMOLITION AND CONSTRUCTION.

6. CONTRACTOR TO MINIMIZE ROAD CLOSURES OF EXISTING ROADS AS MUCH AS POSSIBLE. PROVIDE TRAFFIC CONTROL DEVICES AS REQUIRED FOR CONSTRUCTION AND ROAD CLOSURES PER REQUIREMENTS OF MUTCD (MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES, LATEST EDITION).

7. ALL IMPROVEMENTS MUST BE BUILT TO DFCM SPECIFICATIONS AND STANDARDS. ALL CONSTRUCTION SHALL BE INSTALLED AND TESTED IN ACCORDANCE WITH LOCAL STANDARDS AND SPECIFICATIONS AND ALL APPLICABLE CODES.

8. THE GROUND SURFACE SURROUNDING THE EXTERIOR OF THE BUILDINGS SHOULD BE SLOPED TO DRAIN AWAY IN ALL DIRECTIONS. A MINIMUM SLOPE OF 6" IN THE FIRST 10' IS RECOMMENDED.

9. DIMENSIONS TAKE PRECEDENCE OVER SCALING, ANY DISCREPANCIES SHOULD BE BROUGHT TO THE ATTENTION OF THE ENGINEER.

10. BUILDING FOUNDATION, EXCAVATION, RETAINING WALLS, AND PAVEMENT SHOULD FOLLOW THE RECOMMENDATIONS OF THE SOILS REPORT.

11. ALL WATER LINES MUST BE BURIED TO A MINIMUM DEPTH OF 36" TO TOP OF PIPE.

12. TREES MUST BE PROTECTED BY CONTRACTOR. NO PARKING OR DRIVING WILL BE ALLOWED UNDER OR AROUND TREES CANOPY.

13. BASIS OF BEARINGS, COORDINATES, AND ELEVATIONS SHOWN ARE ON THE CEDAR CITY COORDINATE CONTROL NETWORK USING THE CEDAR CITY GPS BASE STATION AND CALIBRATION.

DEMOLITION NOTES

1. GROUNDS STAFF APPROVAL IS REQUIRED PRIOR TO REMOVING TREES.

2. ALL REMAINING TREES TO BE WATERED USING DRIP SOAKER TUBE OUT AWAY FROM THE TRUNK, WRAPPED AT LEAST (2) TIMES AROUND EACH TREE.

3. ALL FILLS THAT ARE PLACED DURING THE DEMOLITION PHASE MUST BE TESTED BY THE GEOTECHNICAL TESTING COMPANY.

4. THE RELOCATION AND REMOVAL OF EXISTING UTILITIES MUST BE COORDINATED WITH THE PROPER UTILITY COMPANY AND SUU FACILITIES STAFF. THIS COORDINATION IS THE RESPONSIBILITY OF THE CONTRACTOR.

5. EXISTING FEATURES MUST BE DISPOSED OF TO AN OFF SITE LOCATION DURING THE DEMOLITION PHASE.

DEMOLITION PLAN NOTES

1. EXISTING TREE TO BE REMOVED
2. EXISTING LANDSCAPING TO BE REMOVED AND REPLACED AFTER CONSTRUCTION OF THE TUNNEL IS COMPLETE.
3. EXISTING IRRIGATION LINE TO BE RELOCATED
4. EXISTING SPRINKLER CLOCK TO BE RELOCATED
5. EXISTING IRRIGATION BOX TO BE RELOCATED
6. EXISTING UNDERGROUND POWER TO BE ABANDONED
7. EXISTING UNDERGROUND POWER TO REMAIN
8. EXISTING LIGHT POLE TO REMAIN
9. EXISTING LIGHT POLE TO BE REMOVED
10. EXISTING CURB & GUTTER TO REMAIN
11. EXISTING CURB & GUTTER TO BE REMOVED
12. EXISTING ASPHALT TO REMAIN
13. EXISTING ASPHALT TO BE REMOVED
14. EXISTING SIDEWALK TO REMAIN
15. EXISTING SIDEWALK TO BE REMOVED
16. EXISTING SIGN TO REMAIN
17. EXISTING SIGN TO BE REMOVED
18. EXISTING DRIVE APPROACH TO BE REMOVED
19. EXISTING LANDSCAPE CURB TO BE REMOVED

EXISTING LANDSCAPE CURB TO REMAIN

21. REMOVE EXISTING TUNNEL AND DISPOSE OFF-SITE INCLUDING METAL CULVERT, CONCRETE, ETC.

DEMOLITION LEGEND

- EXISTING TREES TO REMAIN
- EXISTING TREES TO BE REMOVED
- EXISTING STRIPING TO BE REMOVED
- EXISTING STRIPING TO REMAIN
- EXISTING LANDSCAPING TO BE REMOVED AND REPLACED AT THE END OF THE PROJECT
- EXISTING ASPHALT TO REMOVE
- EXISTING CONCRETE
- EXISTING CONCRETE TO REMOVE
- EXISTING TBC TO REMOVE
- EXISTING TBC TO REMAIN

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SCALE IN FEET

LEGEND

- DEMOLITION EXTENTS
- LIMIT — FENCED LIMIT OF CONSTRUCTION
- EXISTING LIGHT POLE
- EXISTING LIGHT POLE TO BE RELOCATED
- EXISTING FIRE HYDRANT
- EXISTING WATER VALVE
- SS — EXISTING SANITARY SEWER
- GAS — EXISTING GAS LINE
- UGP — EXISTING UNDERGROUND POWER
- EXISTING ASPHALT TO REMAIN
- PROPOSED ASPHALT
- PROPOSED LANDSCAPING
- PROPOSED CONCRETE
- 19 — DEMOLITION NOTE DESIGNATION

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CHECKED BY:	R.L. -
OWNER PROJECT NO.:	-
GSBS PROJECT NO.:	2010.084.00
ISSUED DATE:	5/16/2012

DEMOLITION PLAN

CE 101

UTILITY PLAN NOTES

1. EXISTING TBC
2. EXISTING ASPHALT
3. EXISTING STORM DRAIN LINE
4. EXISTING UNDERGROUND TELEPHONE LINE
5. EXISTING OVER HEAD POWER
6. EXISTING POWER POLE
7. EXISTING UNDER GROUND POWER – SEE ELECTRICAL SITE PLAN
8. EXISTING 8" ø WATER MAIN
9. EXISTING FIBER OPTIC LINE
10. EXISTING TRAFFIC SIGNAL POLE
11. PROPOSED 1" WATER METER PER CEDAR CITY DETAIL W5 WITH SERVICE LATERAL TO BUILDING – SEE SHEET CE107
12. PROPOSED LEAK DETECTOR CHECK VALVE PER DETAIL W8 ON SHEET CE107
13. PROPOSED 6" WATER SERVICE TO BUILDING
14. CONNECT TO EXISTING 8"ø WATER MAIN W/ 6" HOT TAP AND 6" GATE VALVE PER CEDAR CITY DETAIL W10 SHEET CE106
15. PROPOSED 8" SEWER LINE – TIE TO EX. MANHOLE SEE SHEET CE 104
16. PROPOSED CONCRETE UTILITY PAD/DUMPSTER ENCLOSURE
17. PROPOSED LOADING DOCK
18. PROPOSED L TYPE CATCH CURB AND GUTTER PER DETAIL ON SHEET CE107
19. PROPOSED CORTEN STEEL RETAINING WALL PER DETAIL ON SHEET CE107
20. PROPOSED STORM DRAIN BOX – SEE TABLE FOR SIZE AND INFO
21. PROPOSED STORM DRAIN LINE – SEE TABLE FOR SIZE AND SLOPE
22. DAYLIGHT STORM DRAIN INTO GUTTER WITH SIDEWALK DRAIN
23. SAWCUT PAVEMENT PRIOR TO PLACING NEW ASPHALT
24. REPLACE EXISTING PAVEMENT WITH 8" OF ROAD BASE AND 3" OF ASPHALT PER THE SOILS REPORT.
25. PROPOSED STRIPING PER DETAIL ON SHEET CE107
26. PROPOSED ADA ACCESSIBLE PARKING STALL PER DETAIL ON SHEET CE107
27. PROPOSED ADA RAMP/WALKWAY PER DETAIL ON SHEET CE107
28. LANDSCAPE AREA – SEE LANDSCAPE PLANS
29. ROOF DRAINS – SEE MECHANICAL PLANS
30. PROPOSED CONCRETE WATERWAY PER DETAIL ON SHEET CE107
31. NOT USED
32. PROPOSED SIDEWALK PER DETAIL ON SHEET CE107
33. PROPOSED STAIRS
34. REPLACE DRIVEWAY AND CURB AND GUTTER WITH NEW SIDEWALK & CURB AND GUTTER PER CEDAR CITY DETAILS C1 & C6 ON SHEET CE106
35. PROPOSED GAS LINE
36. PROPOSED GAS METER
37. PROPOSED 6" CONCRETE SLAB ON 8" COMPACTED ROAD BASE ON STRUCTURAL SUBGRADE

UTILITY GENERAL NOTES

1. UTILITY LOCATIONS MUST BE VERIFIED IN THE FIELD BY THE CONTRACTOR. THE CONTRACTOR MUST CALL SUU FACILITIES MANAGEMENT AND BLUE STAKES PRIOR TO ANY EXCAVATION.

2. THE CONTRACTOR IS RESPONSIBLE FOR THE SAFETY ONSITE DURING ALL PHASES OF DEMOLITION AND CONSTRUCTION. ANY WORK ON 300 WEST OR CENTER STREET MUST USE PROPER TRAFFIC CONTROL ACCORDING TO MUTCD STANDARDS.

3. THE CONTRACTOR IS RESPONSIBLE TO WALK THE SITE WITH THE SUU GROUNDS STAFF PRIOR TO BEGINNING PROJECT.

4. CARE MUST BE TAKEN NOT TO UNREASONABLY DISTURB THE ADJACENT BUILDINGS DURING ALTERNATE PHASES OF DEMOLITION AND CONSTRUCTION.

5. THE RELOCATION AND REMOVAL OF EXISTING UTILITIES MUST BE COORDINATED WITH THE PROPER UTILITY COMPANY. THIS COORDINATION IS THE RESPONSIBILITY OF THE CONTRACTOR.

6. TREES MUST BE PROTECTED BY CONTRACTOR. NO PARKING OR DRIVING WILL BE ALLOWED UNDER OR AROUND TREES CANOPY.

7. THE CONTRACTOR WILL NEED TO OBTAIN AN ENCROACHMENT PERMIT FROM UDOT PRIOR TO DOING ANY WORK IN THE CENTER STREET R.O.W.

8. THE CONTRACTOR WILL NEED TO CLEAN UP THE ENTIRE WORK SITE AFTER CONSTRUCTION, INCLUDING SWEEPING THE ROADWAY.

9. ALL PUBLIC IMPROVEMENTS SHALL CONFORM TO CEDAR CITY ENGINEERING STANDARDS AND STANDARD DETAIL DRAWINGS, LATEST REVISION.

10. ANY EXISTING SIDEWALK, CURB & GUTTER, HANDICAP RAMPS, ASPHALT, OR ANY OTHER EXISTING PUBLIC IMPROVEMENTS THAT ARE DISTURBED DURING THE COURSE OF CONSTRUCTION MUST BE REPAIRED OR REPLACED TO THE SATISFACTION OF CEDAR CITY AND UDOT.

11. DIMENSIONS TAKE PRECEDENCE OVER SCALING, ANY DISCREPANCIES SHOULD BE BROUGHT TO THE ATTENTION OF THE ENGINEER.

UTILITY INFORMATION

UTILITY STATEMENT:
THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE LOCATION, PROTECTION AND RESTORATION OF ALL BURIED OR ABOVE GROUND UTILITIES, SHOWN OR NOT SHOWN ON THE PLANS. (BLUE STAKES 1-800-662-4111)

UTILITY CONTACTS:

ROCKY MOUNTAIN POWER
KENDALL CRIPPS
2217 KITTYHAWK DRIVE
CEDAR CITY, UTAH 84720
(435) 865-3380

QWEST
TIM SQUIRES
(435) 586-2470

CITY STREETS
AND STORM DRAIN
JEFF HUNTER
(435) 233-0060

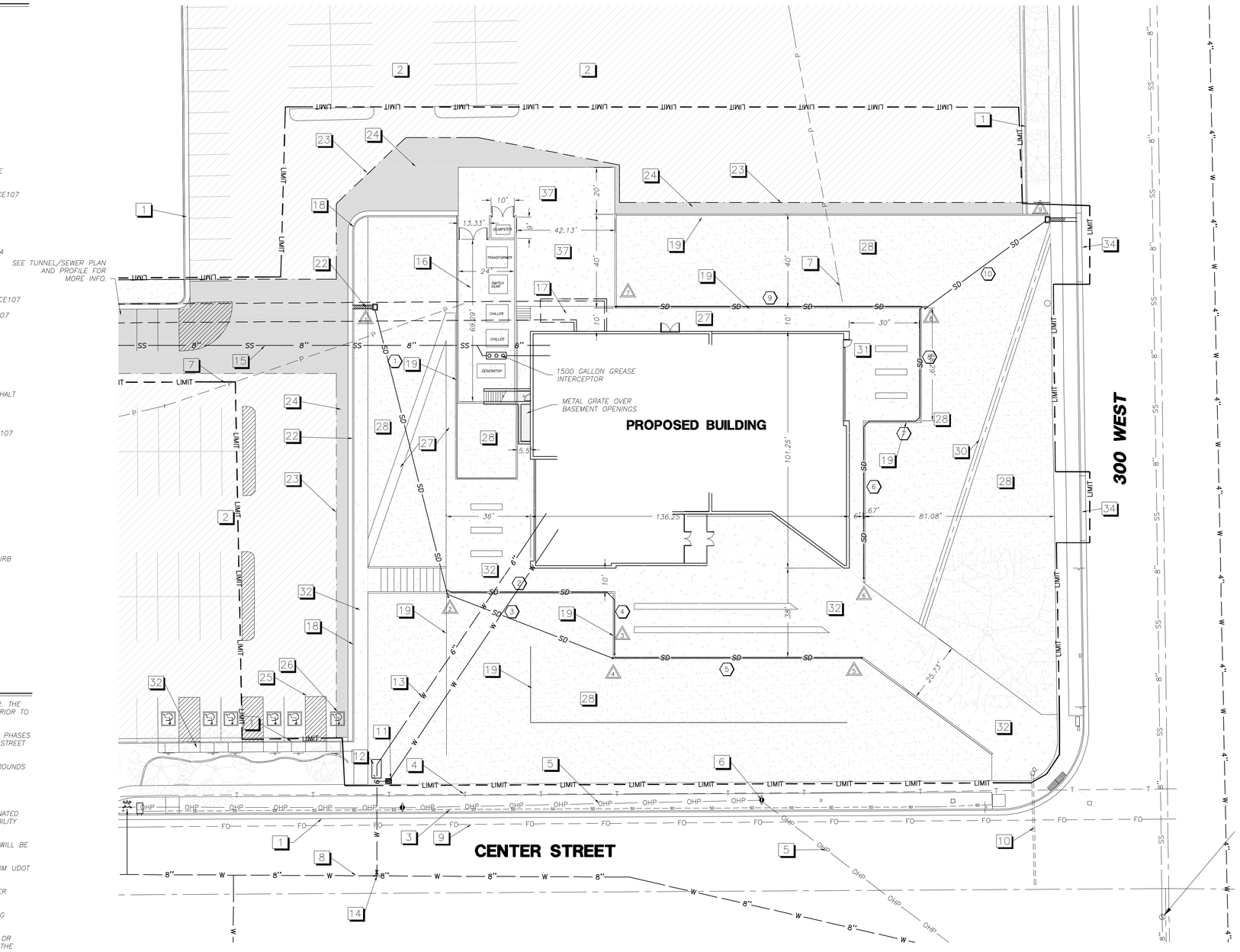
CITY WATER
ROBBIE MITCHELL
(435) 233-0067

QUESTAR GAS
JIM McPHIE
946 PRODUCTION ROAD
CEDAR CITY, UTAH 84720
(435) 865-6255

OPTIMUM CABLE
MARK MARTELL
CEDAR CITY, UTAH 84720
(435) 586-8334

CITY SEWER
DARRELL OLMSTED
(435) 233-0690

CITY ENGINEERING
KIT WAREHAM
(435) 865-5119



SITE/UTILITY PLAN

SCALE: 1"=20'

STORM DRAIN STRUCTURE TABLE

#	TYPE	RIM	INV	I.D. SIZE
1	CURB OUTLET	B.O.W. 5807.57	5807.07	20"X16"
2	CLEANOUT	TOP 5814.57	5809.96	4" DIA
3	CLEANOUT	TOP 5814.27	5811.78	4" DIA
4	CLEANOUT	TOP 5814.27	5811.46	4" DIA
5	CLEANOUT	TOP 5814.27	5813.60	4" DIA
6	CLEANOUT	TOP 5814.57	5813.90	4" DIA
7	CLEANOUT	TOP 5814.52	5813.90	4" DIA
8	CLEANOUT	TOP 5814.37	5811.93	4" DIA
9	CURB OUTLET	B.O.W. 5811.72	5810.97	20"X16"
10				

STORM DRAIN PIPE TABLE

#	INV. IN	INV. OUT	SIZE	SLOPE	LENGTH	MATERIAL
1	5809.96	5807.07	8"ø	2.28%	127 LF	PVC
2	5811.30	5809.96	6"ø	2.00%	67 LF	PERF PVC
3	5811.46	5809.96	6"ø	2.00%	75 LF	PVC
4	5811.78	5811.30	6"ø	2.00%	24 LF	PERF PVC
5	5813.60	5811.46	6"ø	2.00%	107 LF	PERF PVC
6	5813.90	5812.92	6"ø	1.50%	65 LF	PERF PVC
7	5812.92	5812.62	6"ø	1.50%	20 LF	PERF PVC
8	5812.62	5811.93	6"ø	1.50%	46 LF	PERF PVC
9	5813.90	5811.93	6"ø	1.50%	133 LF	PERF PVC
10	5811.93	5810.97	8"ø	1.50%	64 LF	PVC

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SCALE IN FEET

LEGEND

- DEMOLITION EXTENTS
- LIMIT — FENCED LIMIT OF CONSTRUCTION
- EXISTING LIGHT POLE
- EXISTING LIGHT POLE TO BE RELOCATED
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- EXISTING WATER VALVE
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- GAS — EXISTING GAS LINE
- UGP — EXISTING UNDERGROUND POWER
- EXISTING ASPHALT TO REMAIN
- PROPOSED ASPHALT
- PROPOSED LANDSCAPING
- PROPOSED CONCRETE
- 10 — CONSTRUCTION NOTE DESIGNATION
- 1 — DRAINAGE STRUCTURE DESIGNATION
- 1 — DRAIN PIPE DESIGNATION

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InSite Engineering, P.C.
Civil Engineers - Land Surveyors - Land Planners
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phone: (435) 867-4565

REVISIONS:

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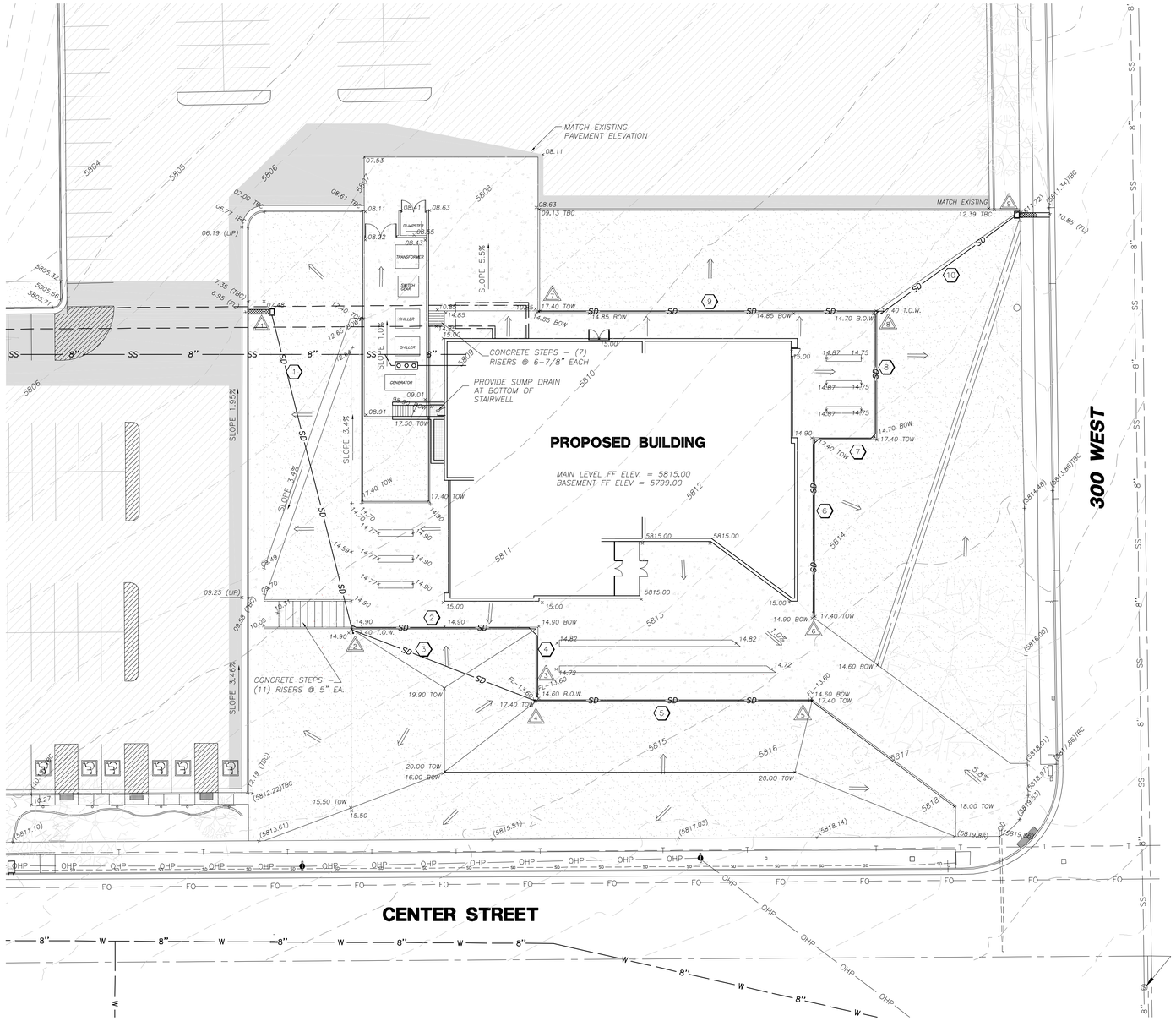
SITE/UTILITY PLAN

CE 102



SITE/GRADING PLAN

SCALE: 1"=20'

STORM DRAIN STRUCTURE TABLE

#	TYPE	RIM	INV	I.D. SIZE
1	CURB OUTLET	B.O.W. 5807.57	5807.07	20"X16"
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SCALE IN FEET

LEGEND

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- EXISTING ASPHALT TO REMAIN
- PROPOSED ASPHALT
- PROPOSED LANDSCAPING
- PROPOSED CONCRETE
- 10 CONSTRUCTION NOTE DESIGNATION

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SITE/GRADING PLAN

CE 103

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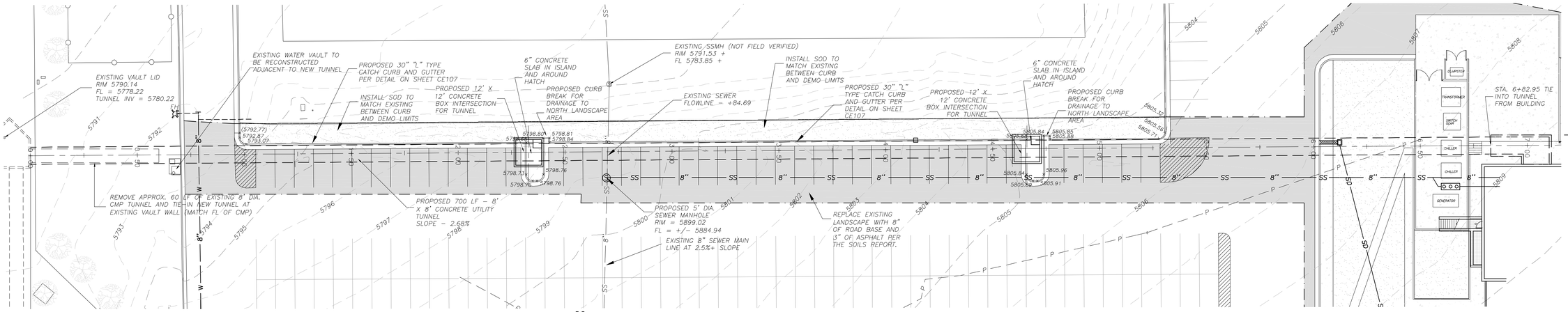
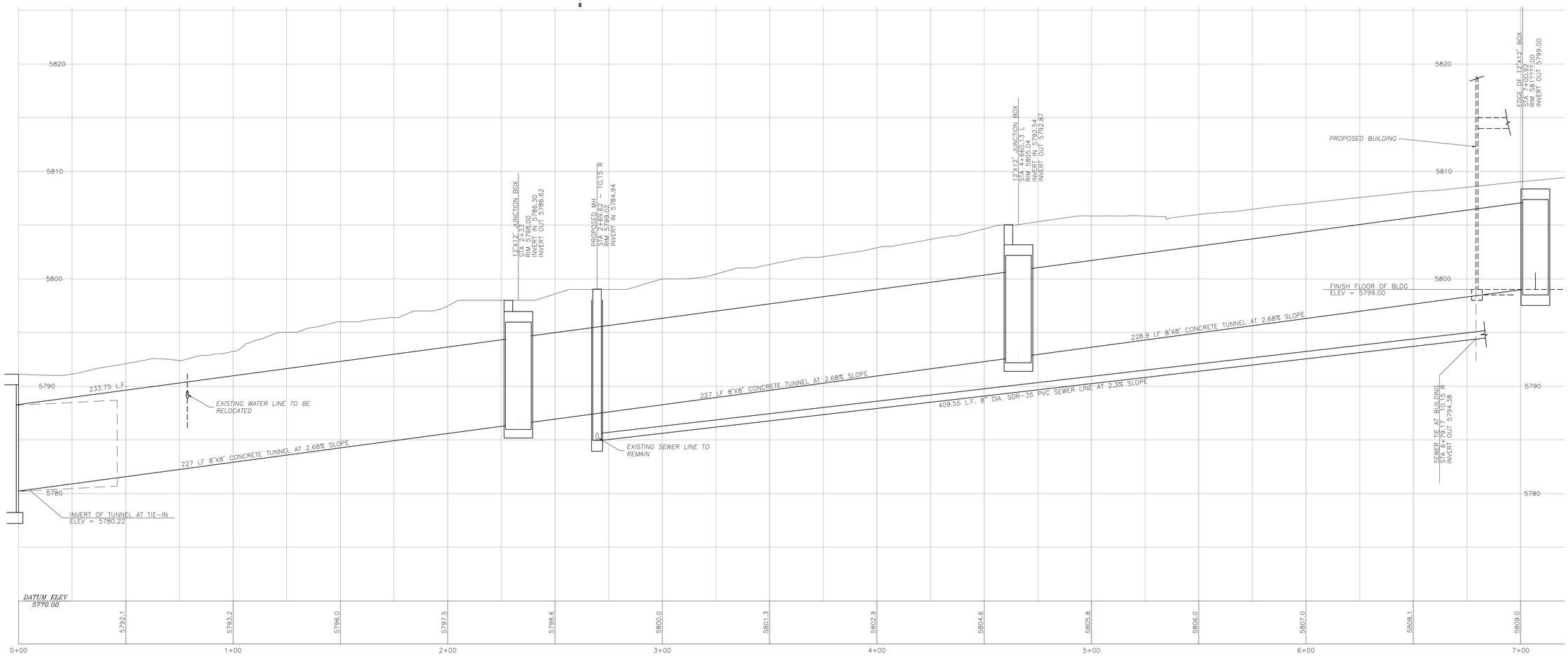


PLAN VIEW FOR NEW UTILITY TUNNEL

SCALE: 1"=20'



PROFILE FOR NEW UTILITY TUNNEL & SEWER

HORIZONTAL SCALE: 1"=20' VERTICAL SCALE: 1"=4'

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UTILITY TUNNEL PLAN & PROFILE

CE 104

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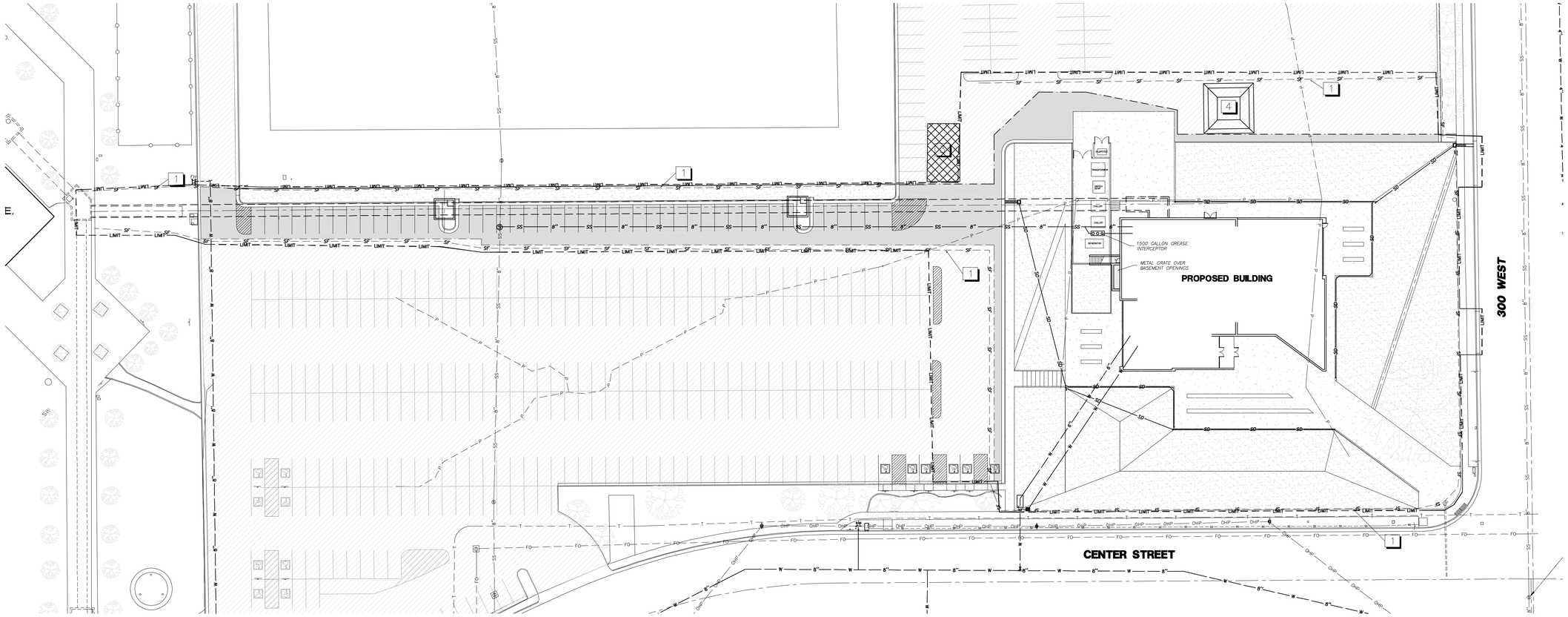

STORM WATER POLLUTION PREVENTION PLAN

SCALE: 1"=20'

SWPP PLAN NOTES

1. TEMPORARY EROSION CONTROL SILT FENCE PER DETAIL EN2 SHEET CE109
2. TEMPORARY EROSION CONTROL CHECK DAMS PER DETAIL EN1 SHEET CE109
3. TEMPORARY EROSION CONTROL STABILIZED CONSTRUCTION ENTRANCE PER DETAIL EN6 SHEET CE110
4. TEMPORARY EROSION CONTROL CONCRETE WASHOUT CONTAINMENT PER DETAIL SHEET CE109
5. TEMPORARY EROSION CONTROL DROP INLET BARRIER PER DETAIL EN4 SHEET CE109
6. TEMPORARY EROSION CONTROL PIPE INLET BARRIER PER DETAIL EN5 SHEET CE110

NOTE:
SEE SHEETS CE109 & CE110 FOR ALL STORM WATER POLLUTION PREVENTION PLAN NOTES AND DETAILS.

SWPP GENERAL NOTES:

1. CONTRACTOR IS RESPONSIBLE FOR OBTAINING A NOTICE OF INTENT (NOI) FROM UTAH STATE, DIVISION OF WATER QUALITY.
2. CONTRACTOR IS RESPONSIBLE FOR COORDINATING WITH THE INSPECTOR, THE SUBMITTAL OF A NOTE OF TERMINATION (NOT) TO UTAH STATE, DIVISION OF WATER QUALITY.
3. CONTRACTOR SHALL PROVIDE STREET SWEEPING UPON OWNER/CITY REQUEST.
4. CONTRACTOR SHALL REMOVE ALL SWPPP ITEMS (AS APPROPRIATE) UPON FILING N.O.T.

SWPP PLAN LEGEND

- LIMIT — CONSTRUCTION LIMITS
- SF — SILT FENCE
- STABILIZED CONSTRUCTION ENTRANCE

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SCALE IN FEET

LEGEND

- DEMOLITION EXTENTS
- LIMIT — FENCED LIMIT OF CONSTRUCTION
- EXISTING LIGHT POLE
- EXISTING LIGHT POLE TO BE RELOCATED
- EXISTING FIRE HYDRANT
- EXISTING WATER VALVE
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- PROPOSED CONCRETE
- 10 — CONSTRUCTION NOTE DESIGNATION
- DRAINAGE STRUCTURE DESIGNATION

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STORM WATER POLLUTION PREVENTION PLAN

CE 105

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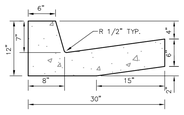
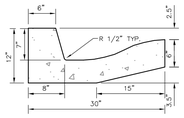


30" CURB & GUTTER

0.57 YD^3/10 LINEAR FT.

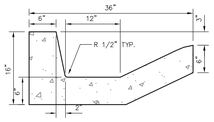
TYPE A



30" IRRIGATION C&G

0.57 YD^3/10 LINEAR FT.

TYPE B



36" CURB & GUTTER

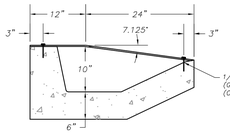
0.81 YD^3/10 LINEAR FT.

TYPE C

NOTE:

ALL CURB AND GUTTER TYPES SHALL HAVE:

1. *CONTRACTION JOINTS EVERY 10' O.C. 1/2" DEEP.*
2. *EXPANSION JOINTS AT THE P.C. AND P.T. OF A STREET INTERSECTION CURB RADIUS RETURN.*

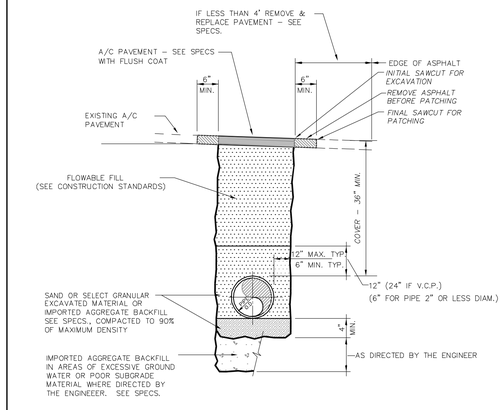


COVERED DRIVE*

USING 1/2" LARGE PATTERN INLAND 4-WAY PLATE (GALVANIZED PAINTED OR HOT DIPPED)

* USE ONLY WHEN APPROVED BY THE CITY ENGINEER.

SHEET NO.				DRAWN:	DATE:
C1	CURB & GUTTER		CEDAR CITY P.O. BOX 940 10 NORTH MAIN STREET CEDAR CITY, UTAH 84721 PH. (435) 586-2963	N.T.S.	08/2008
FILENAME				DRAWN: J.R.B.	CHECKED: J.C.N.

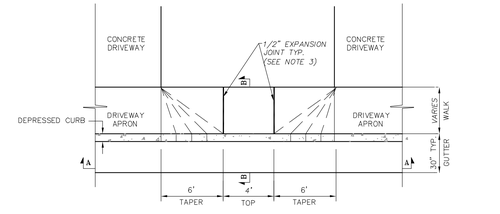


NOTE:

1. TRENCH WIDTH, BEDDING, AND PIPE ZONE REQUIREMENTS FOR UTILITY INSTALLATIONS SHALL CONFORM TO THE RESPECTIVE AGENCY REQUIREMENTS.

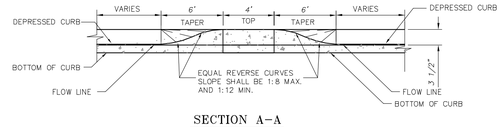
TYPICAL TRENCH DETAIL

SHEET NO.				DRAWN:	DATE:
R2	SLURRY FILLED TRENCH SECTION		CEDAR CITY P.O. BOX 940 10 NORTH MAIN STREET CEDAR CITY, UTAH 84721 PH. (435) 586-2963	N.T.S.	08/2008
FILE R02				DRAWN: J.R.B.	CHECKED: K.C.W.



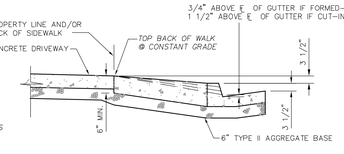
PLAN

N.T.S.



SECTION A–A

N.T.S.



NOTES:

1– *#4 BARS @ 16" O.C. BOTH WAYS REQ'D ON COMMERCIAL AND INDUSTRIAL DRIVEWAYS*

2– *DRIVEWAY CUTS IN EXISTING CURBS SHALL BE SAW CUT TO DIMENSIONS SHOWN. BREAKING-OFF OF CURB BACKS WILL NOT BE PERMITTED.*

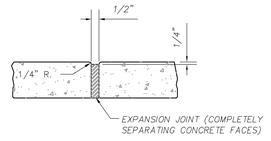
3– *40' EXPANSION JOINT SPACING IN SIDEWALKS TO CONTINUE THROUGH DRIVEWAYS.*

4– *ALL CONCRETE TO BE CLASS A.*

SECTION B–B

N.T.S.

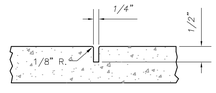
SHEET NO.				DRAWN:	DATE:
C4	COMMERCIAL/INDUSTRIAL DRIVEWAY BREAK		CEDAR CITY P.O. BOX 940 10 NORTH MAIN STREET CEDAR CITY, UTAH 84721 PH. (435) 586-2963	N.T.S.	08/2008
FILE C04				DRAWN: T.B.M.	CHECKED: J.C.N.



NOTE:
1– *ON ALL CURB RETURNS EXPANSION JOINTS SHALL BE PLACED AT P.C. AND P.T. OF THE SIDEWALK.*

EXPANSION JOINT

N.T.S.



CONTRACTION JOINT

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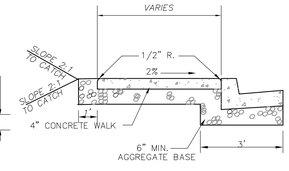
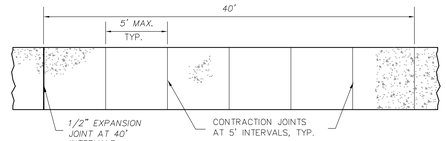


TYPICAL SECTION

N.T.S.



PLAN

N.T.S.

SHEET NO.				DRAWN:	DATE:
C6	CONCRETE SIDEWALK		CEDAR CITY P.O. BOX 940 10 NORTH MAIN STREET CEDAR CITY, UTAH 84721 PH. (435) 586-2963	N.T.S.	08/2008
FILE C06				DRAWN: J.R.B.	CHECKED: J.C.N.

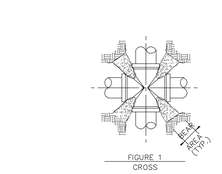


FIGURE 1
CROSS
(ONLY REQ'D IF ANY LEG IS LESS THAN 60 FT. LONG)

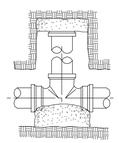


FIGURE 2
TEE, PLUG OR CAP

NOTE:

MECHANICAL JOINTS AT ALL FITTINGS (E.: BENDS, TEES, CROSSES, AND VALVES SHALL HAVE THRUST BLOCKS AND THRUST RESTRAINT. (MEGA-LUG OR APPROVED EQUAL).

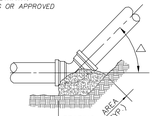


FIGURE 3
HORIZONTAL OR UPWARD VERTICAL BEND

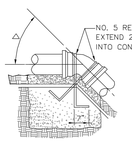


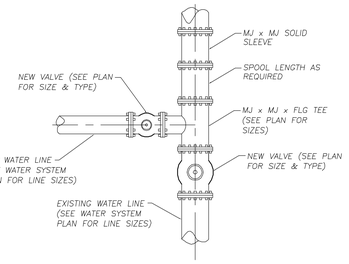
FIGURE 4
DOWNWARD VERTICAL BEND

GENERAL NOTES:

1. ALL FITTINGS & EXPOSED REBAR TO BE WRAPPED W/ TWO LAYERS OF 6 MIL. POLYETHYLENE WHERE COVERED WITH CONCRETE.
2. ALL CONCRETE SHALL BE CLASS C 3000 P.S.I. MINIMUM 28 DAYS COMPRESSIVE STRENGTH.
3. PLACE CONCRETE AGAINST UNDISTURBED EARTH.
4. TABLE DENOTES MINIMUM BEARING AREA OR VOLUME OF THRUST BLOCK. SPECIAL DESIGN FOR EACH INSTALLATION IS REQUIRED IF ALLOWABLE SOIL BEARING CAPACITY IS LESS THAN 3000 P.S.F..
5. VERTICAL SURFACES NOT BEARING AGAINST UNDISTURBED EARTH SHALL BE FORMED.
6. KEEP CONCRETE AWAY FROM FLANGE BOLTS AND FITTINGS.

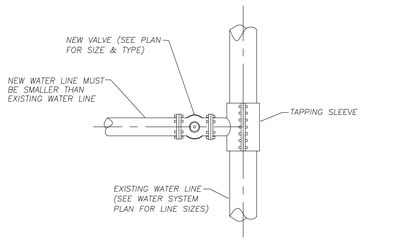
PIPE I.D.	BEARING AREA, SQUARE FEET						VOLUME OF CONC. CU.YD.		
	FIGURE 1		FIGURE 2	FIGURE 3 △			FIGURE 4 △		
			90°	45°	22-1/2°	11-1/4°	45°	22-1/2°	11-1/4°
4"	2	2	2	1	1	1	1.0	.5	.5
6"	2	3	3	2	1	1	1.5	1.0	.5
8"	2	5	6	3	2	1	2.0	1.0	.5
10"	3	7	10	5	3	1	4.0	2.0	1.0
12"	3	10	14	8	4	2			
14"	4	14	20	10	5	3			
16"	4	20	24	12	7	4			
18"	5	24	30	16	10	5			
20"	5	28	40	20	12	6			

SHEET NO.				DRAWN:	DATE:
W3	THRUST BLOCKS		CEDAR CITY P.O. BOX 940 10 NORTH MAIN STREET CEDAR CITY, UTAH 84721 PH. (435) 586-2963	N.T.S.	08/2008
FILE W03				DRAWN: J.R.B.	CHECKED: J.C.N.



CUT-IN TEE CONNECTION

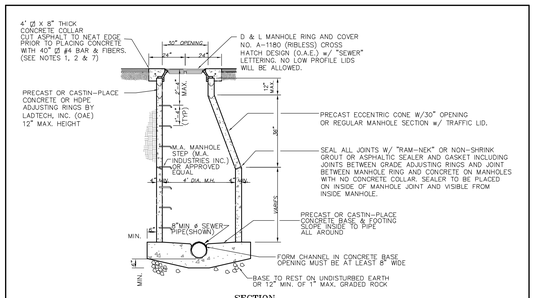
N.T.S.



TAPPED CONNECTION

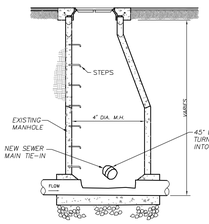
N.T.S.

SHEET NO.				DRAWN:	DATE:
W10	WATER MAIN TO MAIN CONNECTION		CEDAR CITY P.O. BOX 940 10 NORTH MAIN STREET CEDAR CITY, UTAH 84721 PH. (435) 586-2963	N.T.S.	08/2008
FILE W10				DRAWN: J.R.B.	CHECKED: J.C.N.



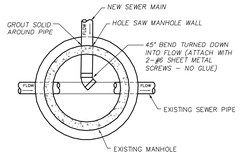
SECTION
TYPICAL MANHOLE FOR SANITARY SEWER

N.T.S.



SECTION

N.T.S.



PLAN

N.T.S.

EXISTING SEWER MANHOLE CONNECTION

N.T.S.

NOTES:

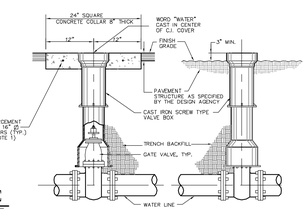
1. MANHOLES IN ROADWAYS REQUIRE CONC. COLLAR. MANHOLES IN UNIMPROVED AREAS SHALL BE SET 6 INCHES ABOVE FINISH GRADE. (NO CONC. COLLAR REQ'D)
2. MANHOLE LID, RING AND CONCRETE COLLAR TO BE CENTERED ON MANHOLE OPENING AND SET 1/4 INCH BELOW TOP OF ASPHALT.
3. 5' DIA. MANHOLES REQUIRED FOR ALL SEWER LINES OVER 18" DIA. OVER 12' DEEP MANHOLE OR 3 OR MORE IN COMING LINES.
4. SEWER LATERALS INSTALLED IN MANHOLES SHALL HAVE A FLOWLINE FORMED INTO THE MANHOLE BASE AND THE ELEVATIONS OF THE TOP OF THE SEWER LATERAL ON INLET OF THE MAIN SHALL BE THE SAME.
5. OUTLET PIPE INVERT TO BE 0.05 FEET (MINIMUM) LOWER THAN INLET PIPES IN ALL MANHOLES
6. NO WOOD OR PVC SHIMS WILL BE ALLOWED BETWEEN LID RING AND ADJUSTING RINGS OR MANHOLE.
7. IF TRAFFIC LID IS USED, CONCRETE COLLAR CAN BE ELIMINATED IF TRAFFIC LID IS < 6" BELOW FINISHED ROAD GRADE.

SHEET NO.				DRAWN:	DATE:
S02	NEW SEWER MANHOLE & EXISTING CONNECTION		CEDAR CITY P.O. BOX 940 10 NORTH MAIN STREET CEDAR CITY, UTAH 84721 PH. (435) 586-2963	?	08/2008
FILE S02				DRAWN: J.R.B.	CHECKED: J.C.N.

NOTES:

1– TOP OF VALVE BOX AND CONCRETE COLLAR TO BE 1/4" BELOW FINAL STREET GRADE.

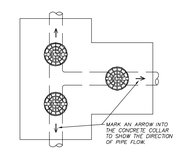
2– IF TOP OF VALVE NUT IS MORE THAN 4' DEEP THEN VALVE STEM EXTENSION IS REQUIRED PER DETAIL.

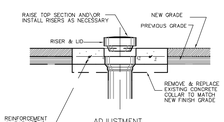


WATER VALVE BOX DETAIL

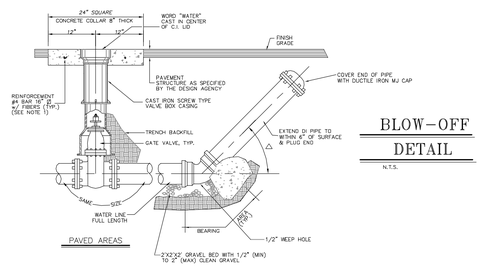
N.T.S.

PAVED AREAS | UNPAVED AREAS





ADJUSTMENT



BLOW-OFF DETAIL

N.T.S.

PAVED AREAS

SHEET NO.				DRAWN:	DATE:
W1	WATER VALVE BOX AND BLOW-OFF		CEDAR CITY P.O. BOX 940 10 NORTH MAIN STREET CEDAR CITY, UTAH 84721 PH. (435) 586-2963	N.T.S.	08/2008
FILE W01				DRAWN: J.R.B.	CHECKED: J.C.N.

SOUTHERN UTAH MUSEUM OF ART

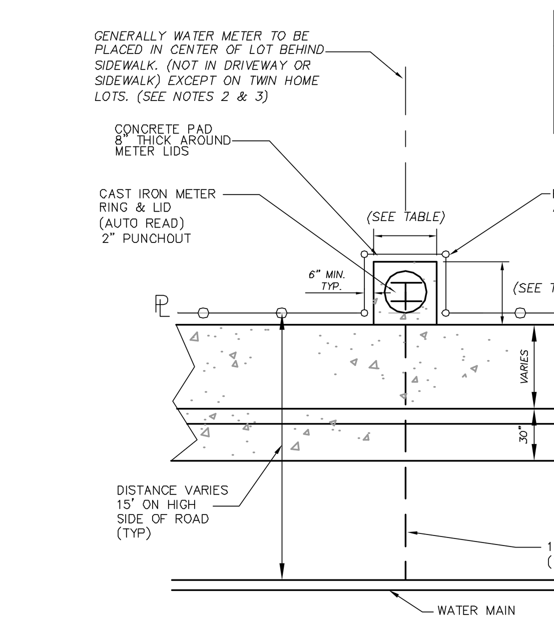
351 WEST UNIVERSITY BOULEVARD
CEDAR CITY, UTAH 84720

Division of Facilities, Construction Management, Southern Utah University

DRAWN BY:	B.D. -
CHECKED BY:	R.L. -
OWNER PROJECT NO.:	
GSBS PROJECT NO.:	2010.084.00
ISSUED DATE:	5/16/2012

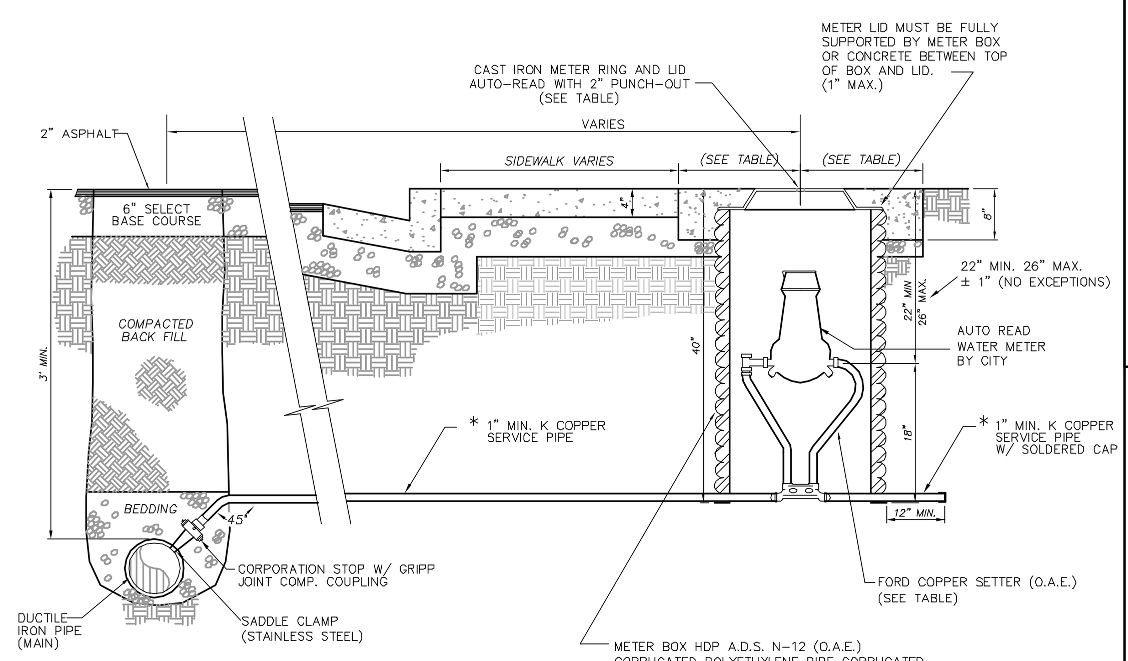
CITY UTILITY DETAILS

CE 106



METER SIZE	BOX DIAMETER	D&L RING & COVER, OAE	FORD SETTER, OAE	APRON SIZE
1"	18"	L-2241	VBHC 74-18W-44-44-G or Q	30"X30"
1 1/2"	24"	B-5074	VBHH 76-18-44-66-G or Q	36"X36"
2"	30"	B-5076	VBHH 77-18-44-77-G or Q	42"X42"

PLAN



NOTES:

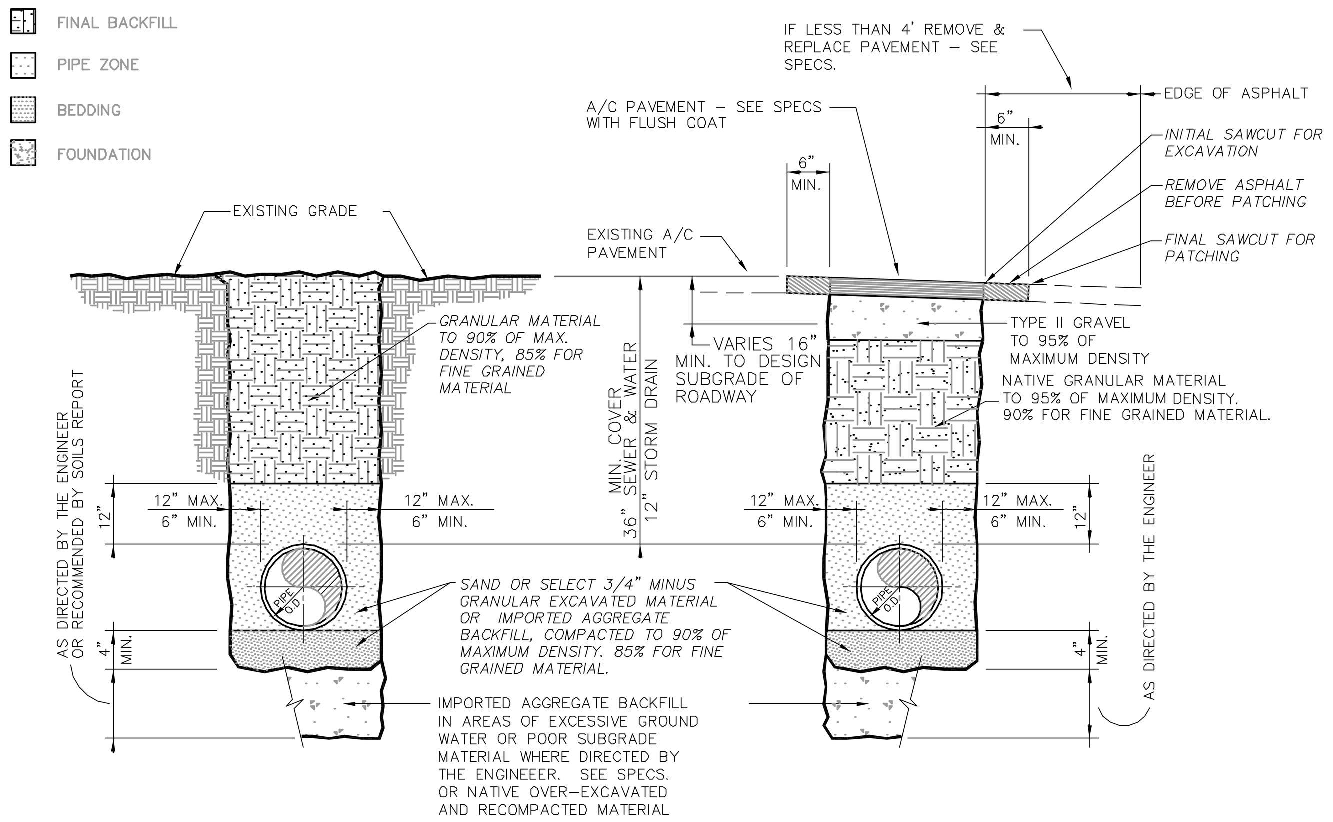
1– 3/4" LATERAL ALLOWED ONLY BY APPROVAL OF THE CITY ENGINEER

2– ON TWIN HOME LOTS THE WATER METERS SHALL BE PLACED 10' FROM EACH SIDE OF LOT LINE.

3– ON INDUSTRIAL ZONED ROADS WHERE SIDEWALKS ARE NOT REQUIRED OR INSTALLED THE WATER METERS SHALL BE INSTALLED BEHIND THE CURB & GUTTER.

SECTION

SHEET NO. W5 / FILE: W05	1"–2" WATER METER	CEDAR CITY P.O. BOX 249, 10 NORTH MAIN STREET, CEDAR CITY, UTAH 84721, PH. (435) 586-2963	SCALE: N.T.S.	DATE: 08/2008
			DRAWN: J.R.B.	CHECKED: J.C.N.



UNPAVED

NOTE: THIS PLATE APPLIES TO THE INSTALLATION OF ALL SERVICE LATERALS. TRENCH WIDTH MINIMUMS DO NOT APPLY TO LATERALS LESS THAN 4".

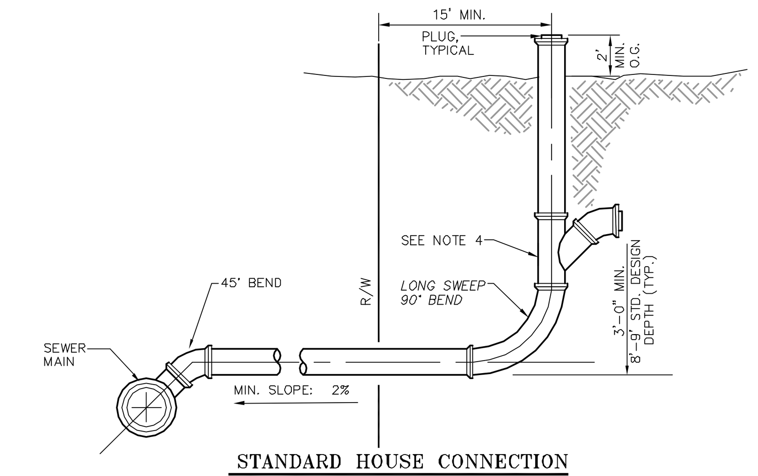
PAVED

NOTE: IF PROFILE DRAWING OF THE PIPE IS PROVIDED, THE COVER SHALL BE AS SHOWN ON PROFILE SHEET.

TYPICAL TRENCH DETAILS

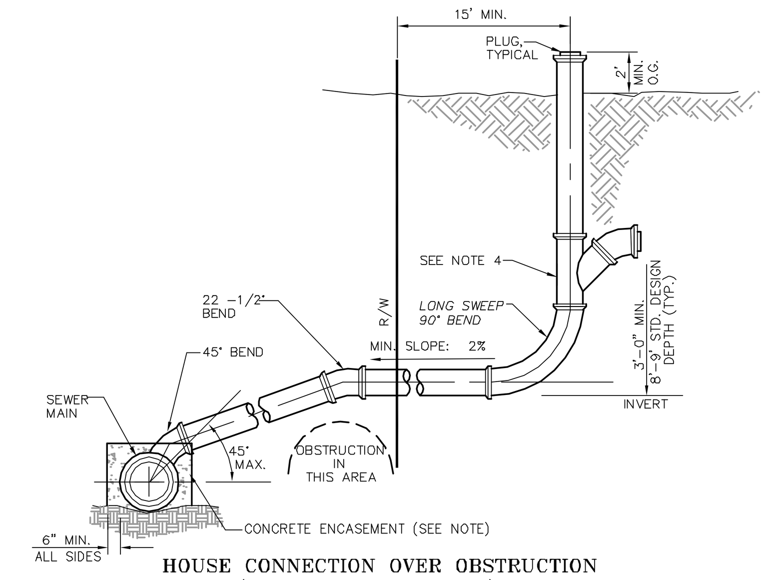
N.T.S.

CEDAR CITY — EARTH FILLED TRENCH SECTION — R1



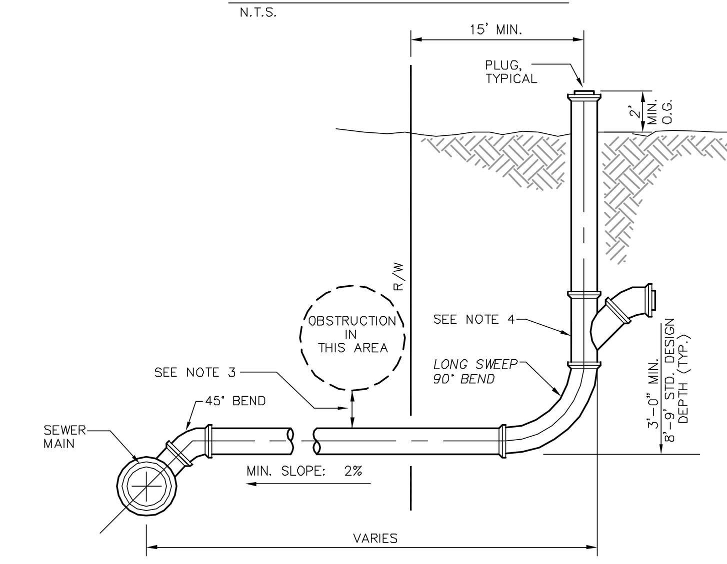
STANDARD HOUSE CONNECTION

N.T.S.



HOUSE CONNECTION OVER OBSTRUCTION (UPON APPROVAL ONLY)

N.T.S.

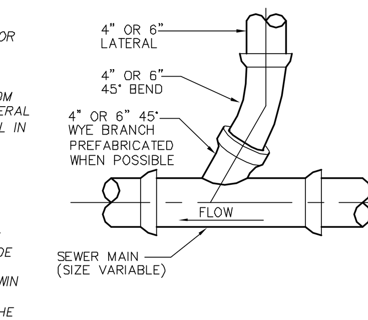


HOUSE CONNECTION UNDER OBSTRUCTION (UPON APPROVAL ONLY)

N.T.S.

NOTE:

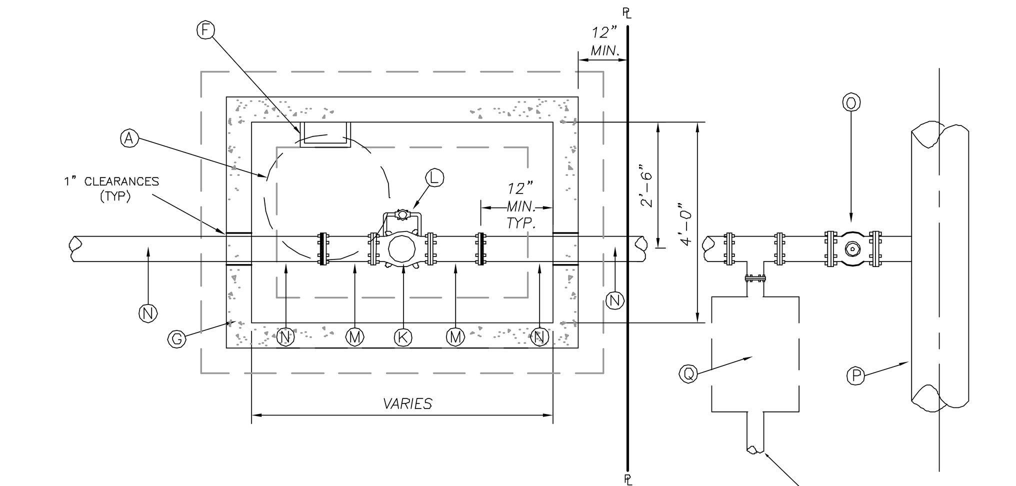
1. PVC SADDLE WYES GLUED & STRAPPED TO PVC MAIN ALLOWED. SADDLE WYES CONNECTING TO VITRIFIED CLAY SEWER PIPE MAIN MUST BE ENCASED IN CONCRETE AS SHOWN.
2. ALL SEWER LATERALS TO BE ABS OR PVC 4" OR 6" DIAMETER MATERIAL SDR-35.
3. WHERE CLEARANCE BETWEEN BOTTOM OF OBSTRUCTION AND TOP OF LATERAL IS LESS THAN 12" ENCASE LATERAL IN CONCRETE.
4. 4" OR 6" PVC WYE INSTALLED BY BUILDING PLUMBER AT REQUIRED ELEVATIONS.
5. SEWER LATERALS SHALL NORMALLY BE PLACED 10 FEET INSIDE THE SIDE LOT LINE ON THE SIDE WHERE THE SEWER MAIN IS THE LOWEST. ON TWIN HOME LOTS SEWER LATERAL SHALL BE PLACED 1' ON EACH SIDE OF THE LINE DIVIDING THE HOMES.



STANDARD WYE

N.T.S.

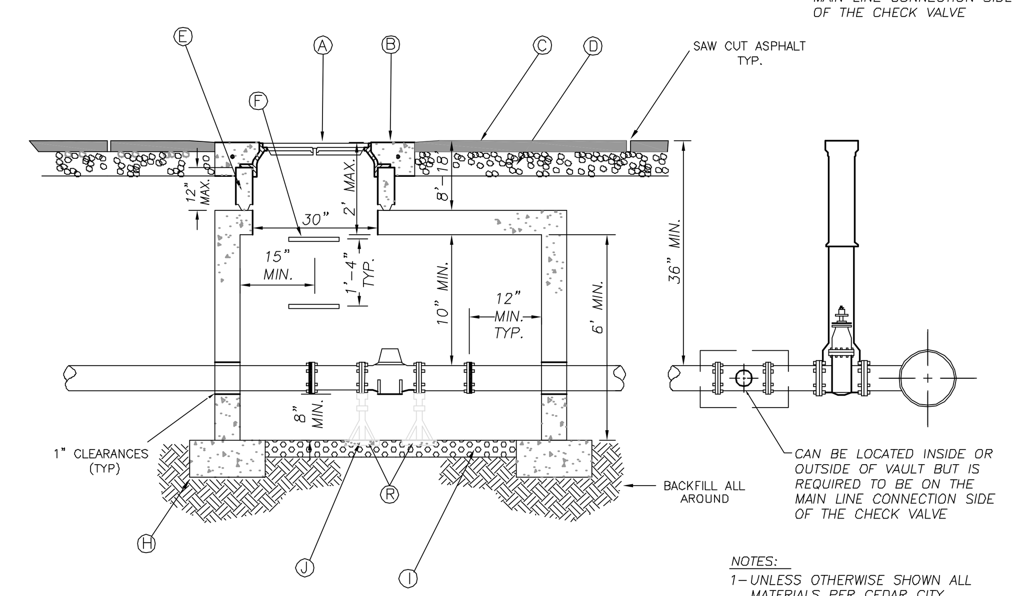
CEDAR CITY — SEWER LATERAL — S1



PLAN

N.T.S.

CAN BE LOCATED INSIDE OR OUTSIDE OF VAULT BUT IS REQUIRED TO BE ON THE MAIN LINE CONNECTION SIDE OF THE CHECK VALVE



NOTE: ALL VALVES AND FITTINGS TO BE SAME SIZE AS PIPE.

ELEVATION

N.T.S.

NOTES:

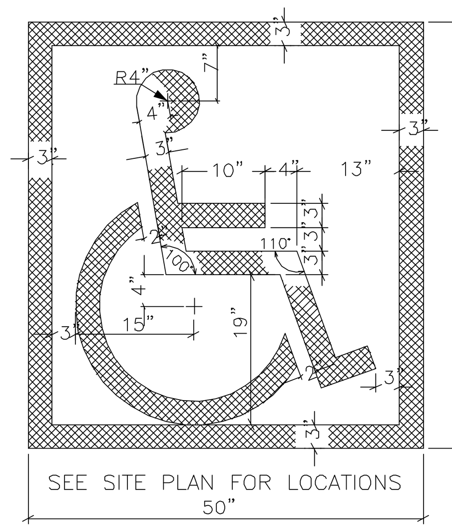
1–UNLESS OTHERWISE SHOWN ALL MATERIALS PER CEDAR CITY ENGINEERING STANDARDS.

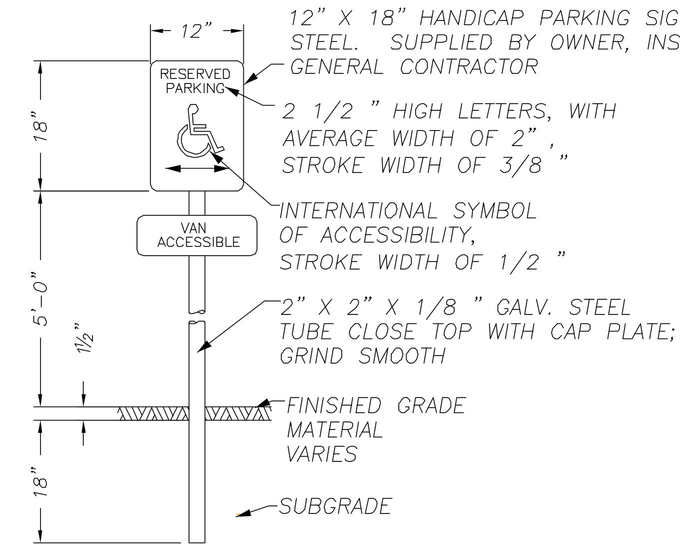
2–CONCRETE VAULT LENGTH SHALL BE SUFFICIENT TO CONTAIN ALL FITTINGS AND MAINTAIN INDICATED CLEARANCE FROM WALLS.

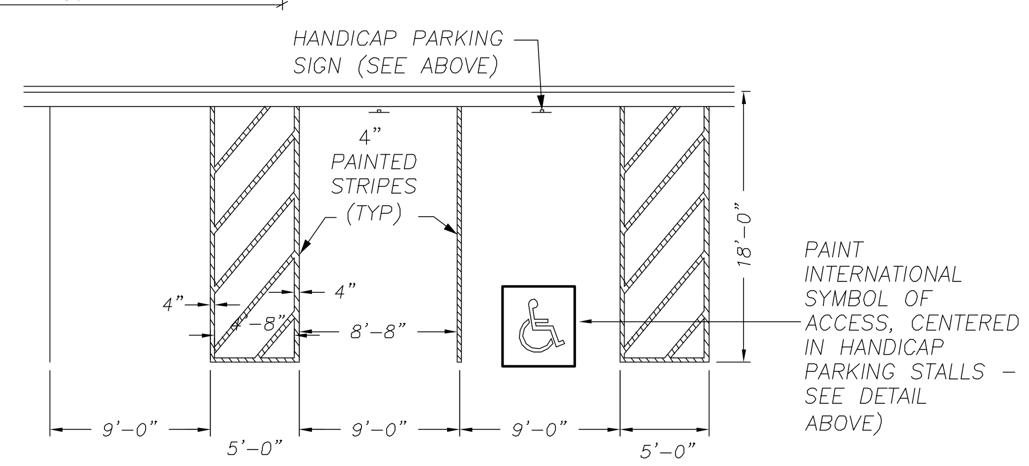
LEGEND

NO.	*	ITEM	DESCRIPTION	NO.	*	ITEM	DESCRIPTION
A		MANHOLE RING AND COVER (RIBLESS)	D&L A-1180 O.A.E.	P		CITY WATER MAIN	
B		4' Ø X 8" THICK CONCRETE COLLAR	W/ 40" Ø #4 BARS & FIBERS	Q		METER PER DETAIL W5 OR W6	
C		3" ASPHALT MAT		R		12" x 12" x 2" CONCRETE BLOCK	
D		8" COMPACTED UNTREATED BASE					
E		GRADE RING(S)	MUST BE SEALED				
F		MANHOLE STEP	(M.A. INDUSTRIES INC. O.A.E.)				
G		CONCRETE VAULT TOP (4'X 6')	AMCOR UV46T O.A.E.				
H		9" X 18" FOOTING W/ 3-#4 BARS					
I		4" THICK DRAIN GRAVEL					
J		(2) LEVELING JACKS (LENGTH VARIES)	SLIDEWINDER PART #23535 BY BARKER MANUF. CO.				
K		SINGLE LEAK DETECTOR CHECK	WATTS SERIES 07F O.A.E.				
L		3/4-INCH BY-PASS KIT	WITH METER AND VALVES				
M		FLANGE ADAPTER	CEMENT LINED				
N		DUCTILE IRON PIPE TO BUILDING	CEMENT LINED				
O		GATE VALVE WITH BOX					

SHEET NO. W8 / FILE: W08	FIRE LOOP DETECTOR CHECK VALVE	CEDAR CITY P.O. BOX 249, 10 NORTH MAIN STREET, CEDAR CITY, UTAH 84721, PH. (435) 586-2963	SCALE: N.T.S.	DATE: 08/2008
			DRAWN: J.R.B.	CHECKED: J.C.N.

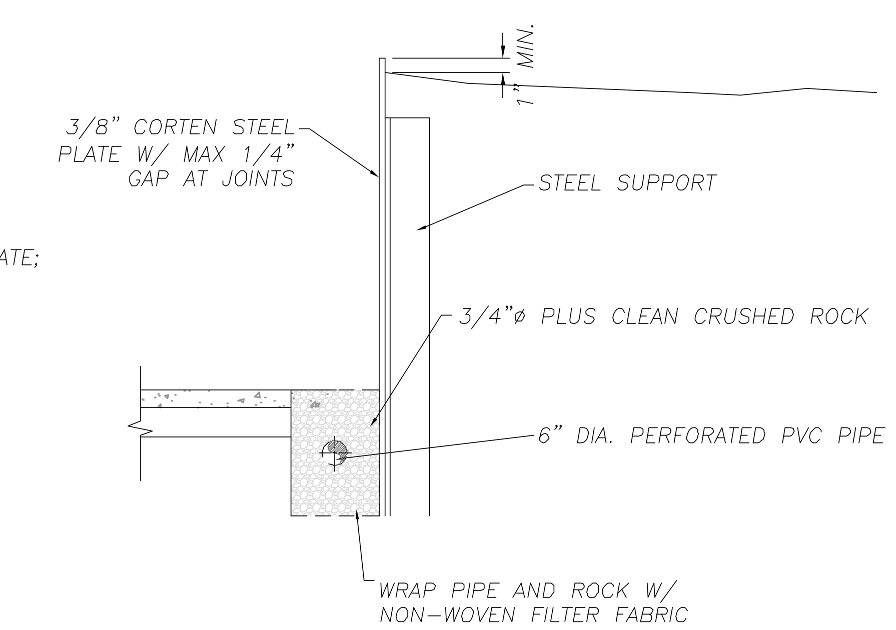






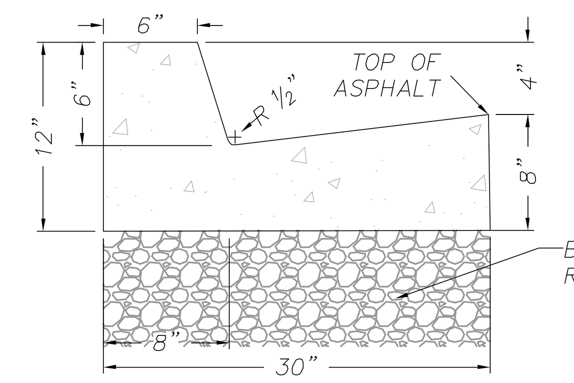
TYPICAL HANDICAP STALLS

N.T.S.



CORTEN RETAINING WALL DETAIL

N.T.S.

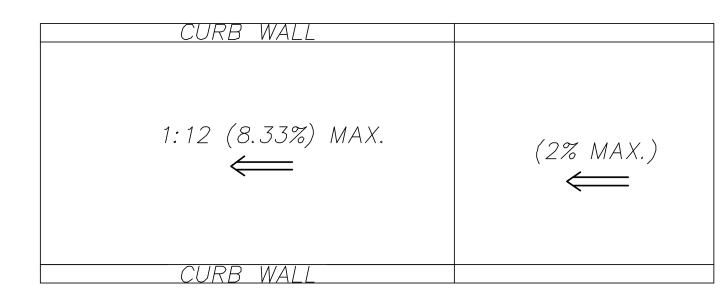


NOTES:
1. PROVIDE EXPANSION JOINTS @ 25' O.C. MAX AND AT CURVES, TANGENTS, AND CORNERS

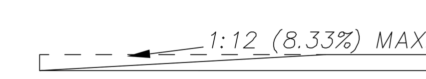
L-TYPE 30" CATCH CURB

N.T.S.

NOTES:
1–A CURB RAMP(S) MUST BE PROVIDED ALONG AN ACCESSILBLE PATH FROM THE PARKING LOT TO CURBED SIDEWALK.
2–A RAMP IS ANY SLOPE GREATER THAN 1:20 (5%) AND SHALL HAVE A MAX. SLOPE OF 1:12 (8.33%). THE MAX. SLOPE IS 1" OF RISE PER FOOT OF DISTANCE TRAVELED. ALL DETECTABLE WARNING AREAS OF THE RAMP ARE TO HAVE A RED COLOR.
3–THE MIN. WIDTH OF ANY RAMP IS 36".



PLAN

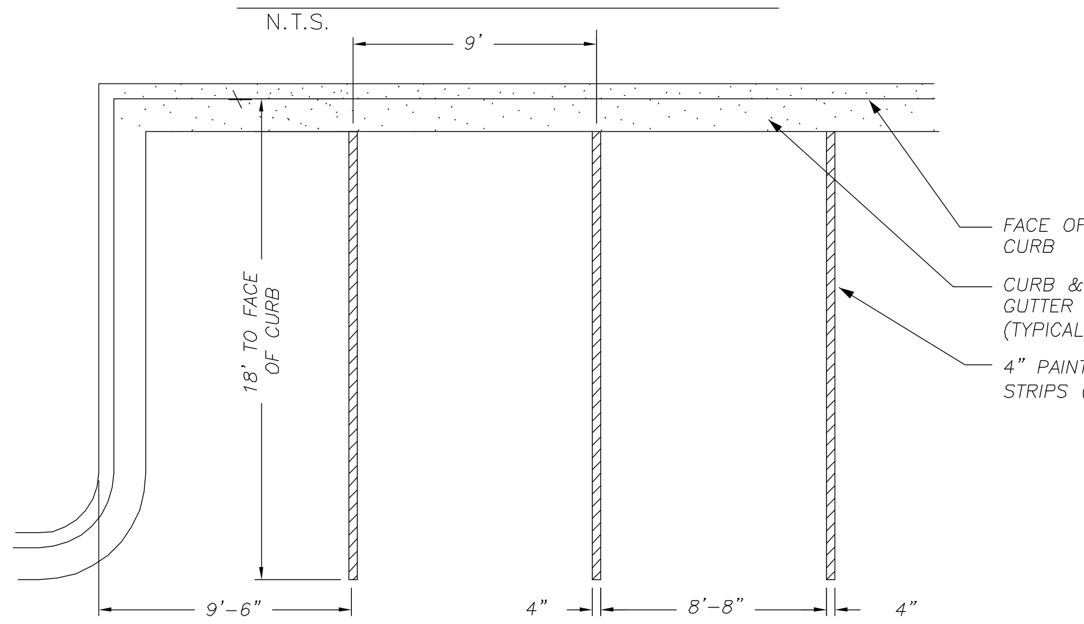


ELEVATION

*SLOPE < 5% = WALK (NOT RAMP).

ACCESSIBLE RAMP DETAIL

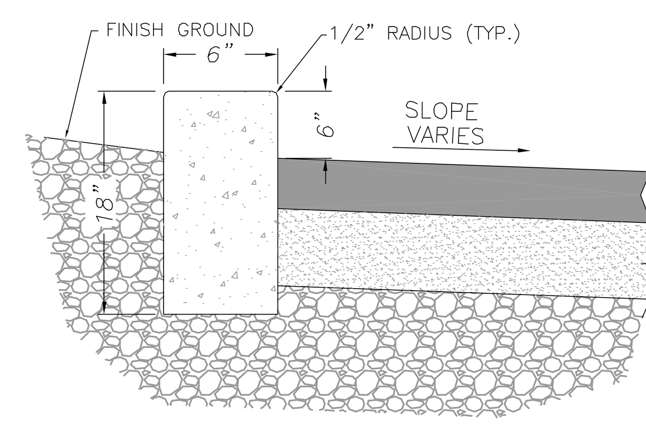
N.T.S.



PARKING STALLS

N.T.S.

NOTES:
1. 1/2" EXPANSION JOINT AT 40' INTERVALS, AT COLD JOINTS AND AT BEGINNING & END OF CURVE RETURN.



6" CURB DETAIL

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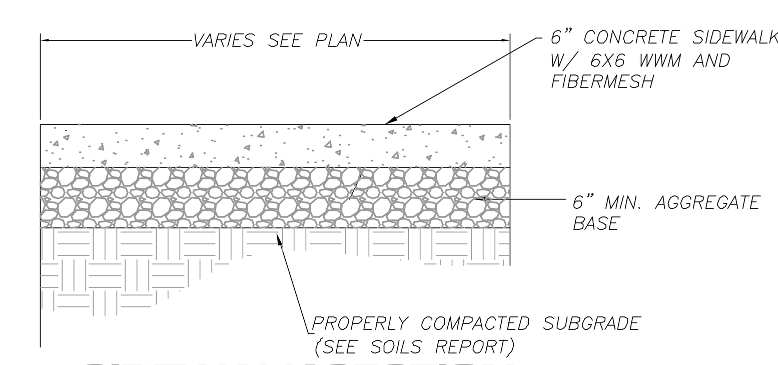

SIDEWALK SECTION

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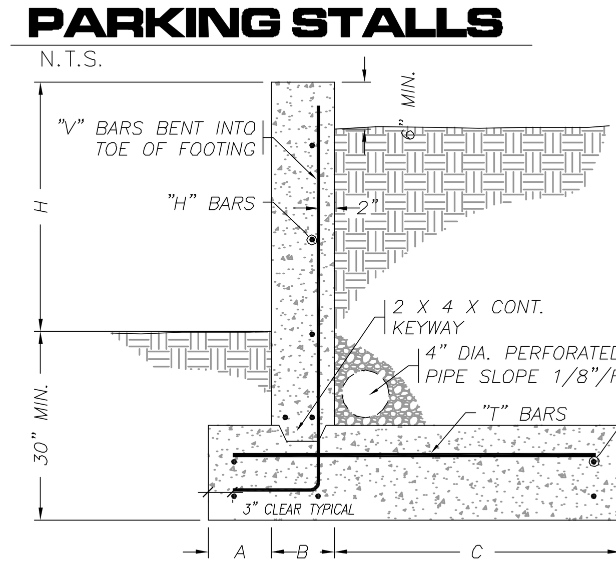
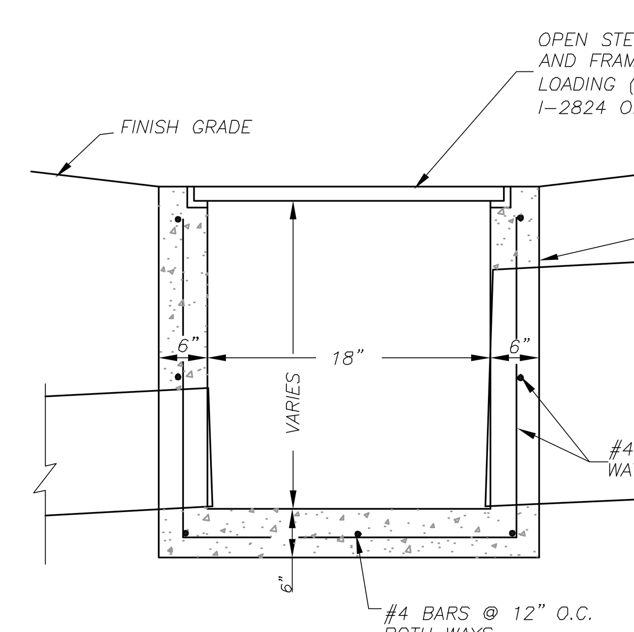


RETAINING WALL SCHEDULE

HEIGHT	DIMENSIONS				REINFORCEMENT			
H	A	B	C	D	"V"	"H"	"T"	"L"
0–3'	8"	8"	1'-0"	12"	#4@12"	#4@12"	#4@12"	(3)–#4
3'–5'	8"	8"	2'-0"	12"	#4@12"	#4@12"	#4@12"	(5)–#4

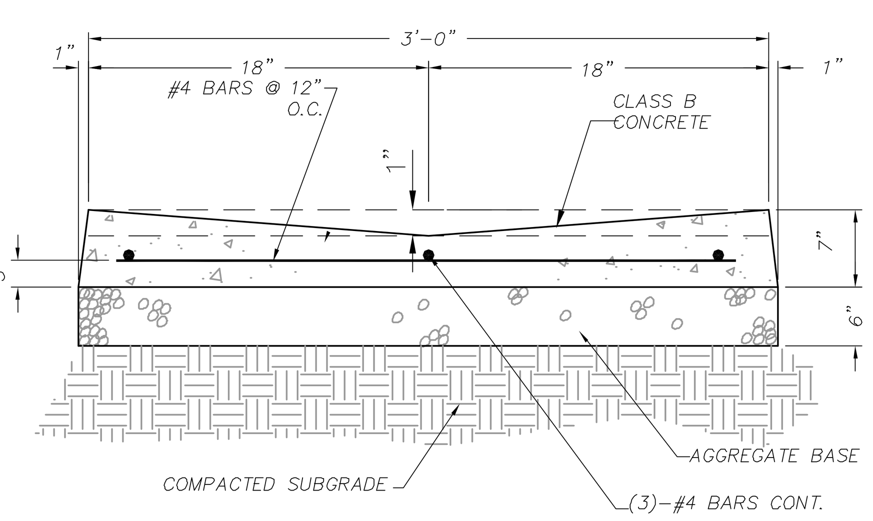
SITE RETAINING WALL DETAIL

N.T.S.



CONCRETE STORM DRAIN BOX

N.T.S.



3' CONCRETE GUTTER DETAIL

N.T.S.

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Division of Facilities, Construction Management, Southern Utah University

DRAWN BY:	B.D. -
CHECKED BY:	R.L. -
OWNER PROJECT NO.:	-
GSBS PROJECT NO.:	2010.084.00
ISSUED DATE:	5/16/2012

CITY & CIVIL DETAILS

CE 107

GENERAL

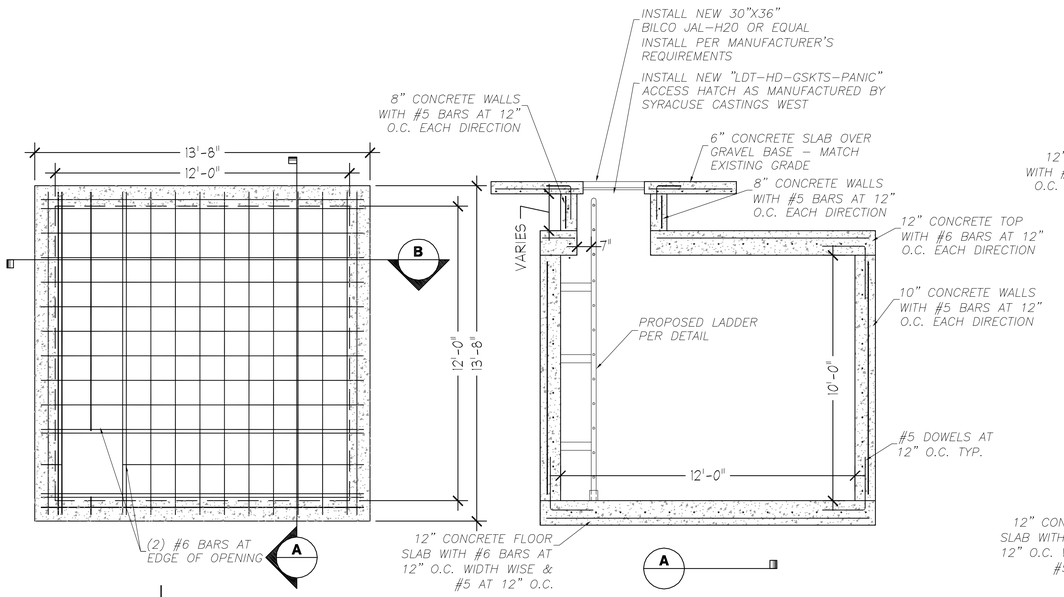
1. CONTRACTOR SHALL COMPARE ALL DIMENSIONS AND CONDITIONS ON DRAWINGS AND AT SITE. ALL OMISSIONS OR CONFLICTS BETWEEN THE VARIOUS ELEMENTS OF THE WORKING DRAWINGS AND/OR SPECIFICATIONS SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT AND OR STRUCTURAL ENGINEER BEFORE PROCEEDING WITH ANY WORK INVOLVED. IN CASE OF CONFLICT, FOLLOW THE MOST STRINGENT REQUIREMENT AS DIRECTED BY THE ARCHITECT WITHOUT ADDITIONAL COST TO THE OWNER.
2. ALL DETAILS, SECTIONS, AND NOTES SHOWN ON THE DRAWINGS ARE INTENDED TO BE TYPICAL AND SHALL APPLY TO SIMILAR SITUATIONS ELSEWHERE UNLESS NOTED OR SHOWN OTHERWISE.
3. SHORING AND BRACING REQUIREMENTS:
   A. FLOOR AND ROOF STRUCTURES – THE GENERAL CONTRACTOR IS RESPONSIBLE FOR THE METHOD AND SEQUENCE OF ALL STRUCTURAL ERECTION. HE SHALL PROVIDE TEMPORARY SHORING AND BRACING AS HIS METHOD OF ERECTION REQUIRES TO PROVIDE ADEQUATE VERTICAL AND LATERAL SUPPORT. SHORING AND BRACING SHALL REMAIN IN PLACE AS THE CHOSEN METHOD REQUIRES UNTIL ALL PERMANENT MEMBERS ARE IN PLACE AND ALL FINAL CONNECTIONS ARE COMPLETED, INCLUDING ALL ROOF AND FLOOR ATTACHMENTS. THE BUILDING SHALL NOT BE CONSIDERED STABLE UNTIL ALL CONNECTIONS ARE COMPLETE.
   B. FOUNDATION WALLS MUST BE BRACED UNTIL THE COMPLETE FLOOR OR ROOF SYSTEMS IS COMPLETED. DO NOT BACK FILL UNTIL FLOOR OR ROOF SYSTEMS ARE IN PLACE.
4. IT SHALL BE THE RESPONSIBILITY OF THE GENERAL CONTRACTOR TO COORDINATE WITH ALL TRADES ANY AND ALL ITEMS THAT ARE TO BE INTEGRATED INTO THE STRUCTURAL SYSTEM. OPENINGS OR PENETRATIONS THROUGH, OR ATTACHMENTS TO THE STRUCTURAL SYSTEM THAT ARE NOT INDICATED ON THESE DRAWINGS SHALL BE THE RESPONSIBILITY OF THE GENERAL CONTRACTOR AND SHALL BE COORDINATED WITH THE ARCHITECT/ENGINEER. THE ORDER OF CONSTRUCTION IS THE RESPONSIBILITY OF THE GENERAL CONTRACTOR. IT IS THE CONTRACTOR'S OBLIGATION TO PROVIDE ITEMS NECESSARY FOR HIS CHOSEN PROCEDURE.
5. OBSERVATION VISITS TO THE SITE BY THE STRUCTURAL ENGINEER SHALL NOT BE CONSTRUED AS INSPECTION NOR APPROVAL ON CONSTRUCTION.
6. ALL CONSTRUCTION AND INSPECTION SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE INTERNATIONAL BUILDING CODE. THE CONTRACTOR SHALL COORDINATE ALL REQUIRED INSPECTIONS AND SHALL NOT PROCEED WITH THE WORK INVOLVED UNTIL THE INSPECTIONS HAVE BEEN DONE.
7. ALL WORKMANSHIP AND MATERIALS SHALL CONFORM TO THE REQUIREMENTS OF THE LATEST EDITION OF THE INTERNATIONAL BUILDING CODE.
8. THE CONTRACTOR MUST SUBMIT A WRITTEN REQUEST FOR, AND OBTAIN THE ARCHITECT'S AND /OR THE STRUCTURAL ENGINEER'S WRITTEN PRIOR APPROVAL FOR ALL CHANGES, MODIFICATIONS, AND/OR SUBSTITUTIONS.
9. THE CONTRACTOR SHALL COORDINATE AND VERIFY ALL DIMENSIONS AND ELEVATIONS SHOWN ON STRUCTURAL DRAWINGS WITH THE CONTRACT DRAWINGS.
10. SEE THE CONTRACT DRAWINGS FOR DIMENSIONS, DOORS, ELEVATIONS, SLOPES, STAIRS, CURBS, DRAINS, RECESSES, DEPRESSIONS, RAILING, WATERPROOFING, FINISHES, CHAMFERS, KERFS, ETC.
11. SAFETY IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR. THE ENGINEER IS NOT A GUARANTOR OF THE CONTRACTOR'S WORK, RESPONSIBLE FOR SAFETY IN, ON, OR ABOUT THE JOB SITE, IN CONTROL OF THE SAFETY OR ADEQUACY OF ANY CONSTRUCTION EQUIPMENT, BUILDING COMPONENT, SCAFFOLDING, FORMS, OR OTHER WORK AIDS OR FOR SUPERINTENDING THE WORK.
12. CONTRACTOR MUST FIELD VERIFY ALL EXISTING CONDITIONS TO MATCH DETAILS SHOWN ON DRAWINGS. IF ANY CONFLICTING CONDITIONS ARISE DURING CONSTRUCTION, CONTRACTOR MUST NOTIFY STRUCTURAL ENGINEER BEFORE PROCEEDING WITH FABRICATION OR CONSTRUCTION.
13. THERMAL OR MOISTURE PROTECTION, FURNISHINGS, DOORS, WINDOWS, EQUIPMENT, MECHANICAL, ELECTRICAL, FINISHES, SIDING, PANELING, VENEERS ARE NOT PART OF THE RESPONSIBILITY OF THE STRUCTURAL ENGINEER.
14. IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO LOCATE ALL EXISTING UTILITIES WHETHER SHOWN HERON OR NOT, AND TO PROTECT THEM FROM DAMAGE. THE CONTRACTOR SHALL BEAR ALL EXPENSE OF REPAIR OR REPLACEMENT IN CONJUNCTION WITH THE REQUIRED WORK.
15. ONLY AN AUTHOROIZED REPRESENATATIVE OF INSITE ENGINEERING, P.C. MAY MAKE CHANGES TO THESE CONTRACT DRAWINGS. INSITE ENGINEERING, P.C. SHALL NOT BE RESPONSIBLE OR LIABLE FOR ANY CLAIMS ARISING DIRECTLY OR INDIRECTLY FROM CHANGES MADE WITHOUT WRITTEN AUTHORIZATION BY AN AUTHORIZED REPRESENTATIVE OF INSITE EINGEERING, P.C.

DRILL & EPOXY ANCHORS

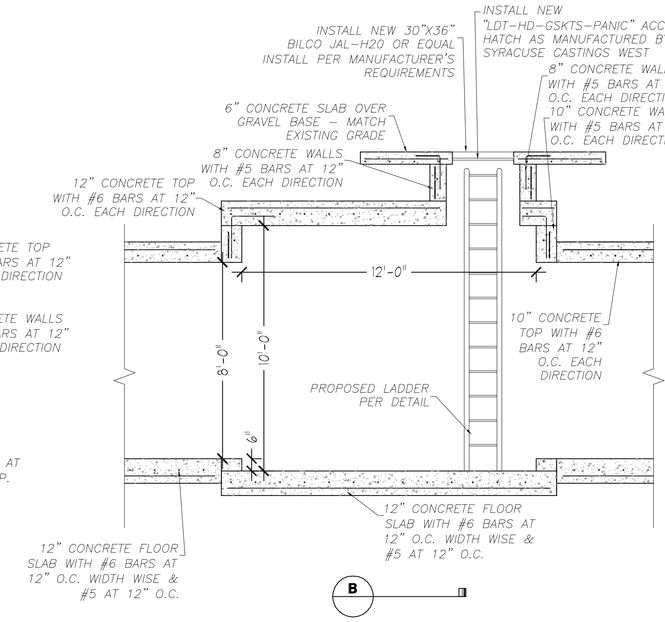
1. USE HILTI HIT–RE 500–SD OR SIMPSON SET–XP ADHESIVE SYSTEM OR EQUIVALENT FOR CONCRETE CONNECTIONS.
2. 10% OF ALL ANCHORS PLACED SHALL BE RANDOMLY TESTED TO 110% OF MANUFACTURER SPECIFIED ALLOWABLE LOAD. IF ANY ANCHOR FAILS IT SHALL BE REPLACED AND RETESTED AT NO ADDITIONAL COST TO THE OWNER. IF AN ANCHOR FAILS, 100 % OF ALL ANCHORS INSTALLED BY THE SAME CREW SHALL BE TESTED AT NO ADDITIONAL COST TO THE OWNER.

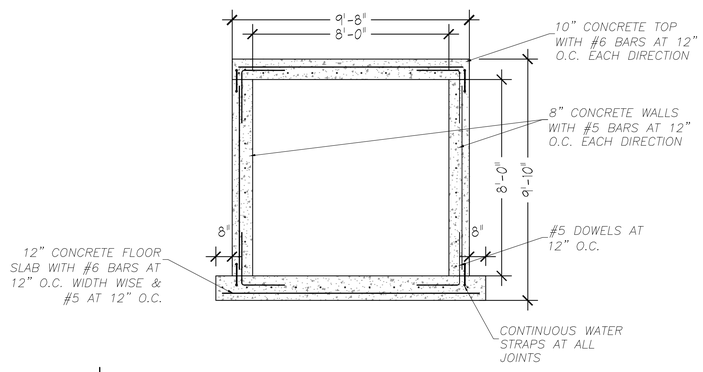
CONCRETE

1. MINIMUM COMPRESSIVE STRENGTH OF CONCRETE IN 28 DAYS AS FOLLOWS:
   B. SUSPENDED SLABS .... 4000 PSI WITH W/C < 0.5 WITH TYPE "V" CEMENT
2. CONCRETE DENSITY:
   A. NORMAL WEIGHT CONCRETE SHALL BE APPROXIMATELY 145 PCF.
3. MILD STEEL REINFORCING: DEFORMED BARS, ASTM A–615, GRADE 60 WITH MINIMUM YIELD STRENGTH 60 KSI.
4. REINFORCEMENT PROTECTION:
   A. CONCRETE PLACED AGAINST THE EARTH...3"
   B. CONCRETE PLACED IN FORMS BUT EXPOSED TO EARTH OR WEATHER.....1–1/2"
   C. COLUMNS, BEAMS.....1–1/2"
   D. SLABS OR WALLS NOT EXPOSED TO EARTH OR WEATHER.....3/4"
5. ADMIXTURES:
   A. AIR–ENTRAINING ADMIXTURES (WHEN USED), COMPLY WITH ASTM C260.
   B. CALCIUM CHLORIDE SHALL NOT BE ADDED TO CONCRETE MIX.
6. NO SPLICES OF REINFORCEMENT PERMITTED EXCEPT AS DETAILED OR AUTHORIZED BY STRUCTURAL ENGINEER. MAKE BARS CONTINUOUS AROUND CORNERS. WHERE PERMITTED, SPLICES MADE BY CONTACT LAPS, 57 BAR DIAMETERS MINIMUM.
7. PROVIDE ACCESSORIES RECOMMENDED BY THE CRSI NECESSARY TO PROPERLY SUPPORT REINFORCING AT POSITIONS SHOWN ON PLANS.
8. DETAIL BARS IN ACCORDANCE WITH ACI 315 "MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCING CONCRETE STRUCTURES". CONCRETE REINFORCING STEEL INSTITUTE (CRSI) RECOMMENDATIONS, AND "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE", ACI 318.
9. PLACE (2)– #5 WITH 2'–0" PROJECTION AROUND OPENINGS IN CONCRETE.
10. NO WELDING OF REINFORCEMENT SHALL BE PERMITTED UNLESS APPROVED BY STRUCTURAL ENGINEER.
11. ALL FORMWORK SHALL COMPLY WITH REQUIREMENTS OF ACI STANDARD PUBLICATION NO 347. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE DESIGN, CARE, DETAILING, PLACEMENT AND REMOVAL OF ALL FORMWORK AND SHORING.
12. CONTRACTOR SHALL COORDINATE PLACEMENT OF ALL OPENINGS, CURBS, DOWELS SLEEVES, CONDUITS, BOLTS AND INSERTS PRIOR TO CONCRETE PLACEMENT. NO ALUMINUM CONDUIT OR PRODUCT CONTAINING ALUMINUM OR ANY OTHER MATERIAL INJURIOUS TO CONCRETE SHALL BE EMBEDDED IN CONCRETE.
13. THE SAMPLES FOR TESTS OF EACH STRENGTH OF CONCRETE SHALL BE TAKEN NOT LESS THAN ONCE A DAY, NOR LESS THAN ONCE FOR EACH 150 CUBIC YARD OF CONCRETE, NOR LESS THAN ONCE FOR EACH 5000 SQUARE FT. OF SURFACE AREA FOR SLABS OR WALLS, NOR LESS THAN FIVE TIMES THROUGHOUT THE PROJECT.
14. PLACEMENT AND CURING OF CONCRETE SHALL CONFORM W/ ALL RECOMMENDATIONS PER THE LATEST ACI 306 "COLD WEATHER CONCRETE."

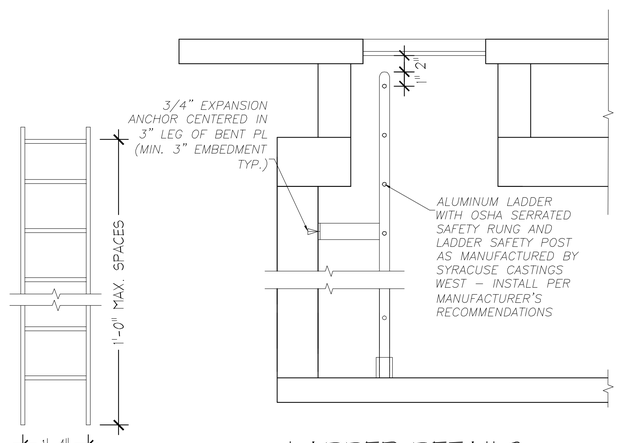


12'x12' VAULT
N.T.S.

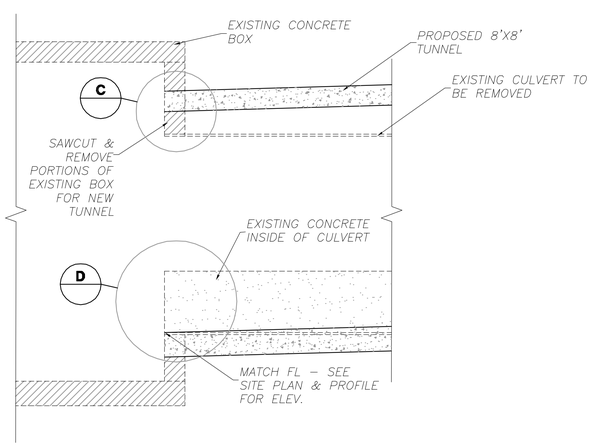




8'x8' TUNNEL
N.T.S.



LADDER DETAILS
N.T.S.



TUNNEL CONNECTION DETAIL
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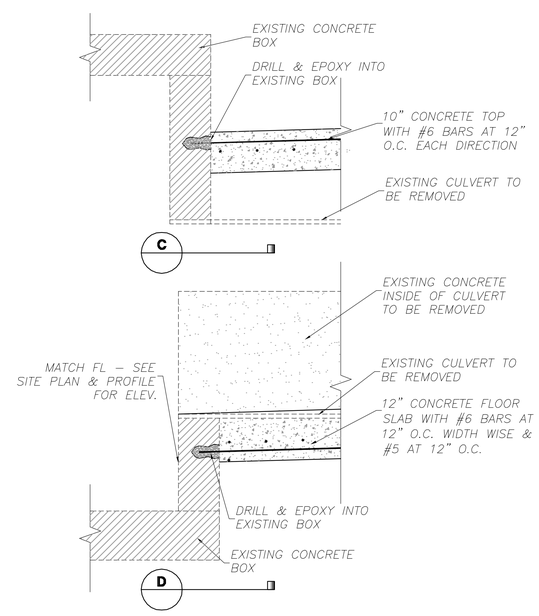

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UTILITY TUNNEL DETAILS

CE 108

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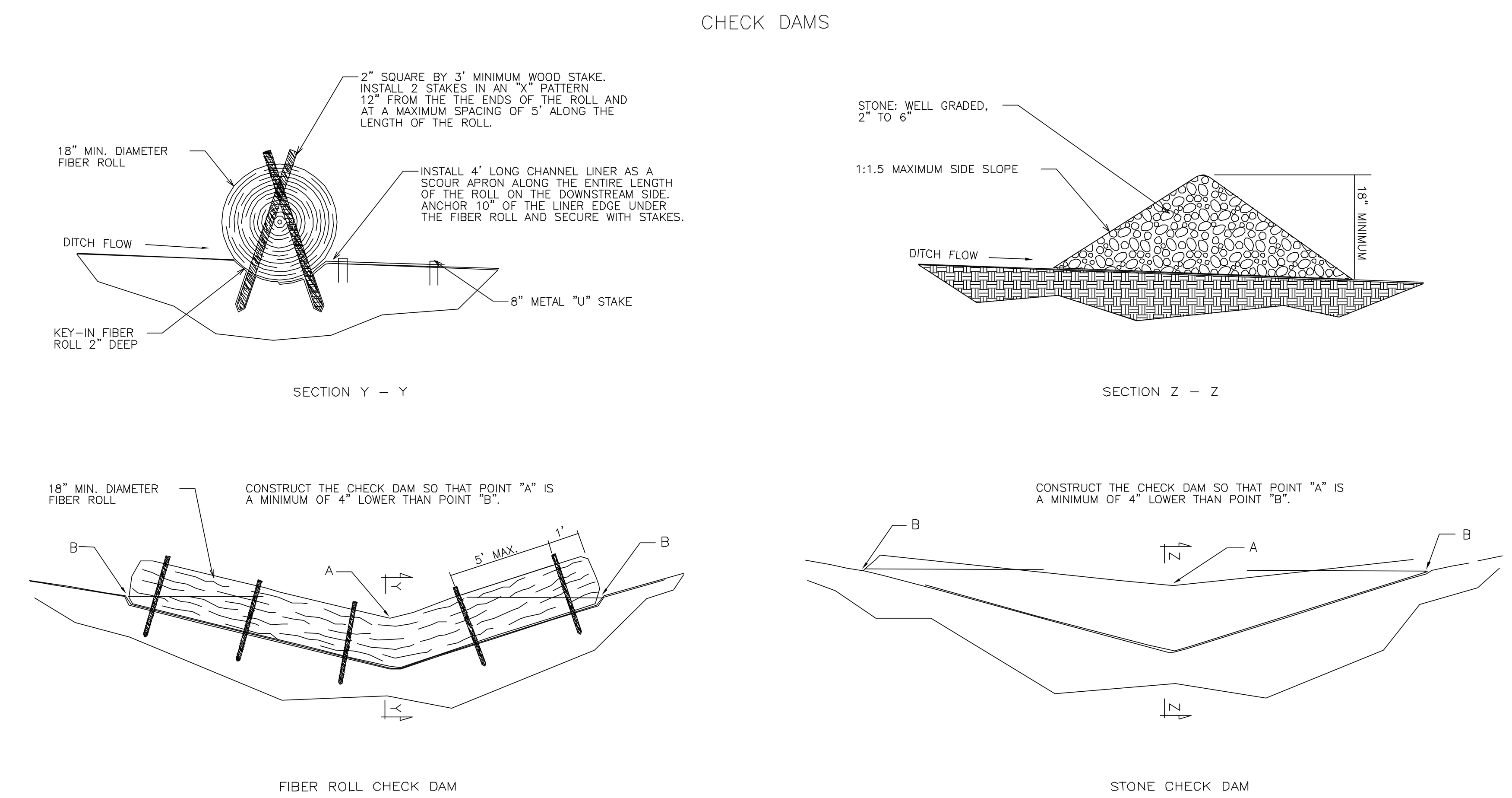
CHECK DAMS



MATERIAL QUANTITY CHART		
DITCH SIDE SLOPE	LENGTH OF FIBER ROLL REQUIRED FOR HALF OF DITCH	CUBIC YARDS OF STONE REQUIRED FOR HALF OF DITCH
2:1	4.5'	0.25
3:1	6'	0.35
4:1	8'	0.5
6:1	11.5'	0.7
8:1	15'	1.0
10:1	18.5'	1.2
12:1	22.5'	1.4

EXAMPLE: A CUT DITCH WITH A 6:1 FORE SLOPE AND A 2:1 BACK SLOPE WOULD REQUIRE A 16' MIN. FIBER ROLL OR 0.95 CUBIC YARDS MIN. OF STONE.

NOTES FOR CHECK DAMS:

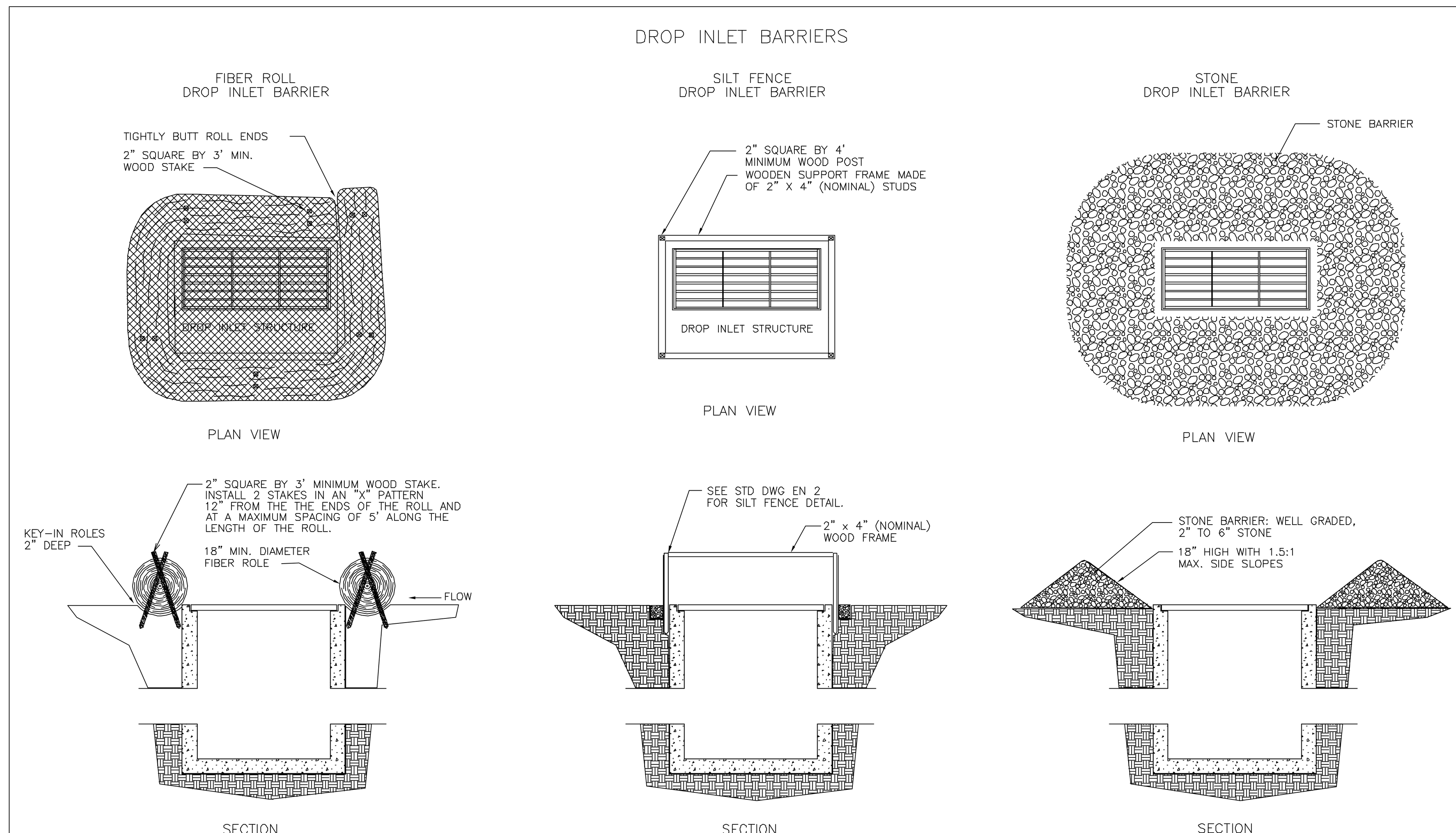
1. PLACE A CHECK DAM AT EVERY TWO-FOOT DROP IN ELEVATION ALONG THE CUT DITCH.
2. A 9" TO 12" DIAMETER FIBER ROLL CAN BE USED IN PLACE OF THE 18" ROLL PROVIDED A ROLL IS INSTALLED AT EVERY ONE-FOOT DROP IN ELEVATION ALONG THE CUT DITCH.
3. PLACE CHECK DAMS PERPENDICULAR TO THE FLOW LINE OF THE DITCH.
4. DO NOT PLACE CHECK DAMS ACROSS NATURAL STREAM BEDS.
5. DO NOT USE STONE CHECK DAMS WITHIN CLEAR ZONES.
6. CONSTRUCT CHECK DAMS SO THAT WATER DOES NOT FLOW AROUND THE ENDS OF THE DAM.
7. REMOVE SEDIMENT AS IT ACCUMULATES AND PLACE IT IN A STABLE AREA APPROVED BY THE ENGINEER.
8. AFTER SURROUNDING AREAS HAVE BEEN SEEDED AND MULCHED, SPREAD ROCK FROM CHECK DAMS TO LINE THE CUT DITCH AND BREAK APART FIBER ROLLS AND SPREAD THE STRAW OVER SEEDED AREAS.

UTAH DEPARTMENT OF TRANSPORTATION
STANDARD DRAWINGS FOR ROAD AND BRIDGE CONSTRUCTION
SALT LAKE CITY, UTAH

TEMPORARY EROSION CONTROL (CHECK DAMS)

STD DWG EN 1

DROP INLET BARRIERS



NOTES:

1. KEY-IN FIBER ROLLS 2" DEEP AROUND THE PERIMETER OF THE DROP INLET STRUCTURE AND STAKE AS SHOWN.
2. OVERLAP THE ENDS OF THE FIBER ROLL AT LEAST 18".
3. IN MEDIAN AREAS, CONSTRUCT SO THAT THE TOPS OF THE ROLLS ARE NOT HIGHER THAN THE ADJACENT ROADWAY.
4. MAINTAIN A PROPERLY FUNCTIONING FIBER LOG BARRIER THROUGHOUT CONSTRUCTION OR UNTIL DISTURBED AREAS CONTRIBUTING TO THE INLET HAVE BEEN PAVED OR VEGETATED.
5. REMOVE SEDIMENT AS IT ACCUMULATES AND PLACE IT IN A STABLE AREA APPROVED BY THE ENGINEER.

NOTES:

1. ENTRENCH THE BOTTOM 18" OF SILT FENCE SECURELY IN THE GROUND AROUND THE PERIMETER OF THE DROP INLET.
2. DRIVE POSTS AT EACH CORNER OF THE INLET STRUCTURE. IF THE DISTANCE BETWEEN CORNER POSTS EXCEEDS 4', PLACE ANOTHER POST(S) BETWEEN THEM.
3. CROSS-BRACE THE TOPS OF ALL POSTS WITH A WOODEN FRAME MADE OF 2X4 STUDS. USE NAILS OR SCREWS FOR FASTENING.
4. IN MEDIAN AREAS, CONSTRUCT SO THAT THE TOP OF THE SILT FENCE IS NOT HIGHER THAN THE ADJACENT ROADWAY.
5. MAINTAIN A PROPERLY FUNCTIONING SILT FENCE BARRIER THROUGHOUT CONSTRUCTION OR UNTIL DISTURBED AREAS CONTRIBUTING TO THE INLET HAVE BEEN PAVED OR VEGETATED.
6. REMOVE SEDIMENT AS IT ACCUMULATES AND PLACE IT IN A STABLE AREA APPROVED BY THE ENGINEER.

NOTES:

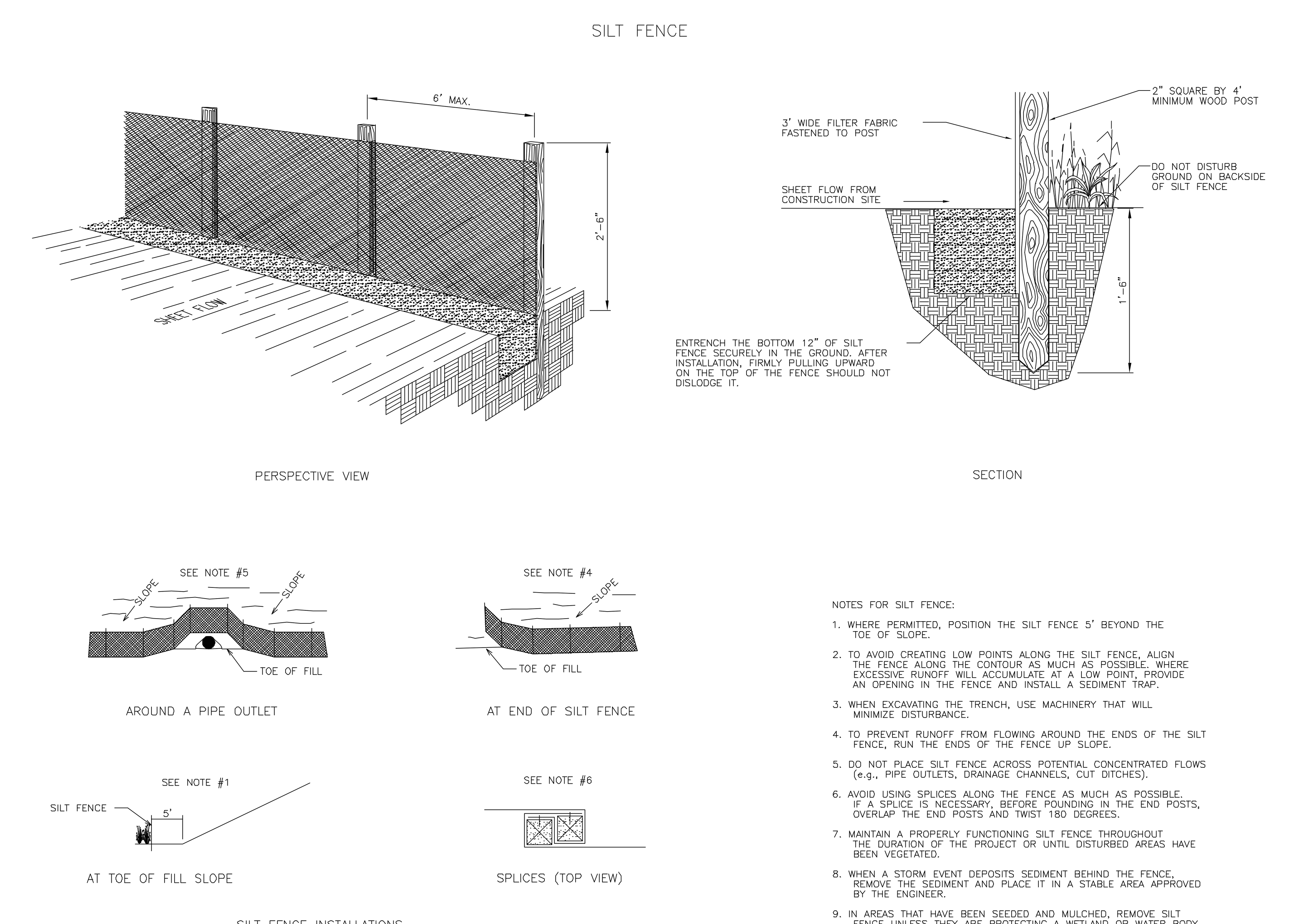
1. PLACE STONE BARRIER AS SHOWN AROUND THE INLET OPENING.
2. DO NOT USE STONE BARRIERS WITHIN THE CLEAR ZONE. INSTEAD USE THE FIBER ROLL OR SILT FENCE BARRIER.
3. IN MEDIAN AREAS, CONSTRUCT SO THAT THE TOP OF THE STONE BARRIER IS NOT HIGHER THAN THE ADJACENT ROADWAY.
4. MAINTAIN A PROPERLY FUNCTIONING STONE BARRIER THROUGHOUT CONSTRUCTION OR UNTIL DISTURBED AREAS CONTRIBUTING TO THE INLET HAVE BEEN PAVED OR VEGETATED.
5. REMOVE SEDIMENT AS IT ACCUMULATES AND PLACE IT IN A STABLE AREA APPROVED BY THE ENGINEER.

UTAH DEPARTMENT OF TRANSPORTATION
STANDARD DRAWINGS FOR ROAD AND BRIDGE CONSTRUCTION
SALT LAKE CITY, UTAH

TEMPORARY EROSION CONTROL (DROP INLET BARRIERS)

STD DWG EN 4

SILT FENCE



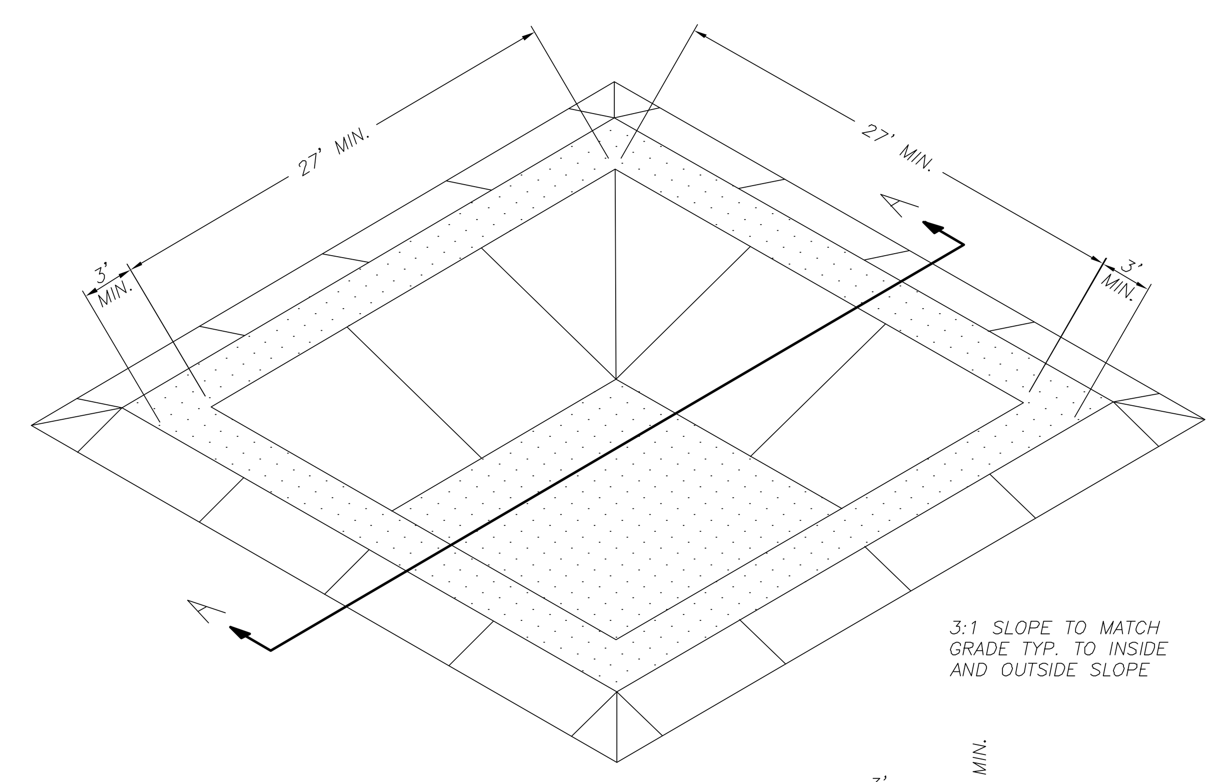
NOTES FOR SILT FENCE:

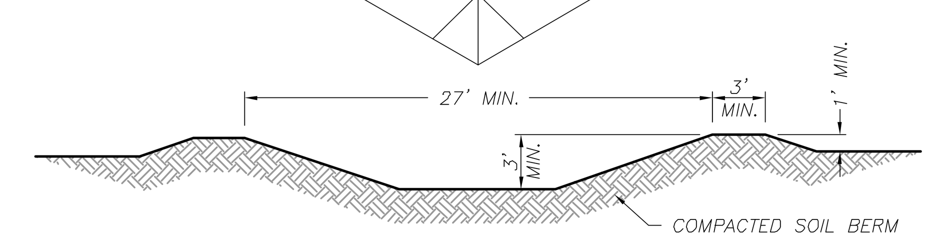
1. WHERE PERMITTED, POSITION THE SILT FENCE 5' BEYOND THE TOE OF SLOPE.
2. TO AVOID CREATING LOW POINTS ALONG THE SILT FENCE, ALIGN THE FENCE ALONG THE CONTOUR AS MUCH AS POSSIBLE. WHERE EXCESSIVE RUNOFF WILL ACCUMULATE AT A LOW POINT, PROVIDE AN OPENING IN THE FENCE AND INSTALL A SEDIMENT TRAP.
3. WHEN EXCAVATING THE TRENCH, USE MACHINERY THAT WILL MINIMIZE DISTURBANCE.
4. TO PREVENT RUNOFF FROM FLOWING AROUND THE ENDS OF THE SILT FENCE, RUN THE ENDS OF THE FENCE UP SLOPE.
5. DO NOT PLACE SILT FENCE ACROSS POTENTIAL CONCENTRATED FLOWS (e.g., PIPE OUTLETS, DRAINAGE CHANNELS, CUT DITCHES).
6. AVOID USING SPLICES ALONG THE FENCE AS MUCH AS POSSIBLE. IF A SPLICE IS NECESSARY, BEFORE POUNDING IN THE END POSTS, OVERLAP THE END POSTS AND TWIST 180 DEGREES.
7. MAINTAIN A PROPERLY FUNCTIONING SILT FENCE THROUGHOUT THE DURATION OF THE PROJECT OR UNTIL DISTURBED AREAS HAVE BEEN VEGETATED.
8. WHEN A STORM EVENT DEPOSITS SEDIMENT BEHIND THE FENCE, REMOVE THE SEDIMENT AND PLACE IT IN A STABLE AREA APPROVED BY THE ENGINEER.
9. IN AREAS THAT HAVE BEEN SEEDED AND MULCHED, REMOVE SILT FENCE UNLESS THEY ARE PROTECTING A WETLAND OR WATER BODY.

UTAH DEPARTMENT OF TRANSPORTATION
STANDARD DRAWINGS FOR ROAD AND BRIDGE CONSTRUCTION
SALT LAKE CITY, UTAH

TEMPORARY EROSION CONTROL (SILT FENCE)

STD DWG EN 2





SECTION A-A
N.T.S.

TEMPORARY EROSION CONTROL CONCRETE WASHOUT CONTAINMENT DETAIL

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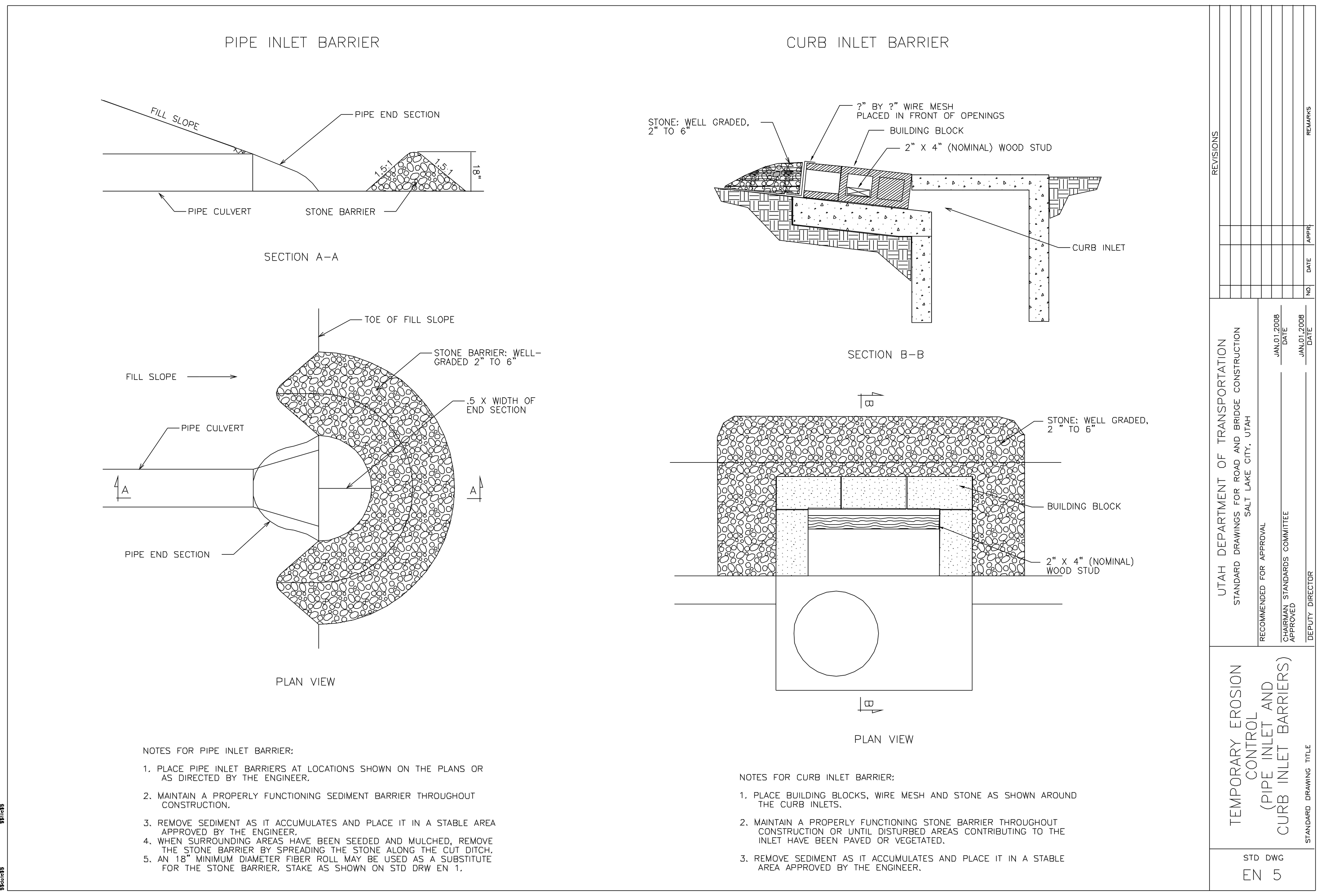
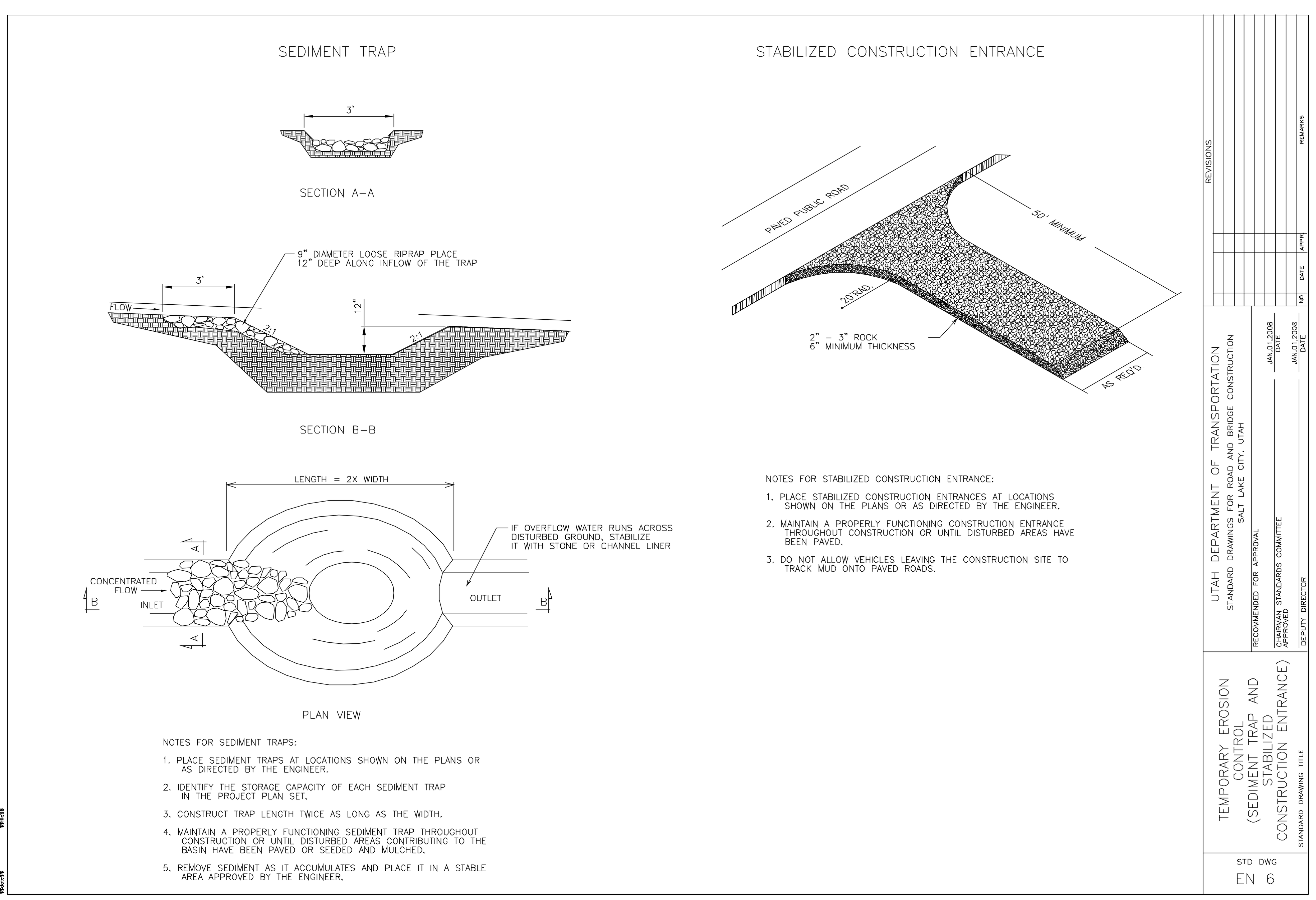
SWPP DETAILS 1

CE 109





PERFORMANCE STANDARDS:
THE GENERAL REQUIREMENTS FOR EROSION CONTROL WORK SHALL BE AS FOLLOWS:

1. ANY LAND DISTURBING ACTIVITY SHALL BE CONDUCTED IN SUCH A MANNER SO AS TO EFFECTIVELY REDUCE ACCELERATED SOIL EROSION AND RESULTING SEDIMENTATION.

2. STRUCTURAL EROSION CONTROL MEASURES INCLUDED IN THE APPROVED PLAN ARE TO BE INSTALLED PRIOR TO SOIL DISTURBANCE. INSTALLATION WILL MEET SPECIFICATIONS SHOWN ON THE DETAIL SHEET.

3. ALL LAND DISTURBING ACTIVITIES SHALL BE DESIGNED, CONSTRUCTED AND COMPLETED IN SUCH A MANNER THAT THE EXPOSURE TIME OF DISTURBED LAND SHALL BE LIMITED TO THE SHORTEST POSSIBLE PERIOD OF TIME.

4. SEDIMENT CAUSED BY ACCELERATED SOIL EROSION SHALL BE REMOVED FROM RUNOFF WATER BEFORE LEAVING THE SITE.

5. ANY TEMPORARY OR PERMANENT FACILITY DESIGNED AND CONSTRUCTED FOR THE CONVEYANCE OF WATER AROUND, THROUGH OR FROM THE LAND DISTURBING ACTIVITY SHALL BE DESIGNED TO LIMIT THE WATER FLOW TO A NON-EROSIVE VELOCITY.

6. TEMPORARY SOIL EROSION CONTROL FACILITIES SHALL BE REMOVED AND AREAS OF LAND DISTURBANCE GRADED TO FINAL GRADE.

7. THE PERMITEE IS RESPONSIBLE FOR MAINTENANCE OF ALL EROSION CONTROL STRUCTURES. THESE STRUCTURES ARE TO BE INSPECTED BY THE PERMITEE WEEKLY AND AFTER EVERY PRECIPITATION EVENT TO INSURE THEIR EFFICIENCY AND TO EVALUATE MAINTENANCE NEEDS OR PER LOCAL INSPECTION REQUIREMENTS. MAINTENANCE OF THESE STRUCTURES MAY BE DIRECTED AT ANY TIME BY A STATE REPRESENTATIVE.

MANAGEMENT STRATEGIES:
1. THE STABILIZED CONSTRUCTION ENTRANCE AND SILT FENCE BARRIERS SHALL BE INSTALLED AS FIRST STEP IN THE GRADING PROCESS.

2. THE SILT FENCE SHOWN ON THE ENCLOSED EROSION CONTROL PLAN SHALL BE SECURED ACCORDING TO THE DETAILS CONTAINED ON THIS PLAN.

3. THE CONSTRUCTION SUPERINTENDENT SHALL HAVE OVERALL RESPONSIBILITY FOR PLAN IMPLEMENTATION. SUPERINTENDENT RESPONSIBLE FOR SEEING THAT APPROPRIATE CONSTRUCTION WORKERS AND SUBCONTRACTORS ARE AWARE OF ALL PROVISIONS OF THE PLAN.

4. CONTRACTOR SHALL ESTABLISH FINAL GRADE PER THE GRADING PLANS AT THE COMPLETION OF THE PROJECT.

5. CLEAN-UP:

A. TRANSPORT TRASH AND DEBRIS, AND SURPLUS AND UNACCEPTABLE SOIL MATERIALS FROM PROJECT SITE AND LEGALLY DISPOSE OF THEM.

B. REMOVE ALL TEMPORARY SHORING, BRACING, EROSION CONTROL, AND OTHER PROTECTION DEVICES WHEN NO LONGER REQUIRED BY OWNER.

GENERAL NOTES:
1. AT ALL TIMES DURING CONSTRUCTION, THE CONTRACTOR SHALL BE RESPONSIBLE FOR PREVENTING AND CONTROLLING EROSION DUE TO WIND AND RUNOFF. THE CONTRACTOR SHALL ALSO BE RESPONSIBLE FOR MAINTAINING EROSION CONTROL FACILITIES SHOWN.

2. ADDITIONAL EROSION CONTROL MEASURES MAY BE REQUIRED DUE TO UNFORESEEN PROBLEMS OR IF THE PLAN DOES NOT FUNCTION AS INTENDED.

3. CONTRACTOR SHALL BE RESPONSIBLE FOR CLEANING DRAINAGE AND EROSION CONTROL FACILITIES AS REQUIRED. STREETS SHALL BE KEPT CLEAN OF DEBRIS FROM TRAFFIC FROM THIS SITE.

4. EROSION CONTROL STRUCTURES BELOW SODDED AREAS MAY BE REMOVED ONCE SOD AND FINAL LANDSCAPING IS IN PLACE. EROSION CONTROL STRUCTURES BELOW SEEDED AREAS MUST REMAIN IN PLACE UNTIL THE ENTIRE AREA HAS ESTABLISHED A MATURE COVERING OF HEALTHY VEGETATION. EROSION CONTROL IN PROPOSED PAVED AREAS SHALL REMAIN IN PLACE UNTIL PAVEMENT IS COMPLETE.

5. THIS PLAN IS ONLY TO BE USED FOR INSTALLATION OF EROSION CONTROL FACILITIES. DO NOT USE THIS PLAN FOR GRADING OR STORM SEWER CONSTRUCTION.

6. CONTRACTOR SHALL USE A STABILIZED CONSTRUCTION ENTRANCE AT ALL LOCATIONS WHERE VEHICLE WILL ENTER OR EXIT THE SITE. CONTROL FACILITIES WILL BE MAINTAINED WHILE CONSTRUCTION IS IN PROGRESS, MOVED WHEN NECESSARY, AND REMOVED WHEN THE SITE IS PAVED.

MAINTENANCE:
IN GENERAL, ALL EROSION AND SEDIMENT CONTROL MEASURES WILL BE CHECKED WEEKLY AND AFTER EACH SIGNIFICANT RAINFALL. THE FOLLOWING ITEMS WILL BE CHECKED IN PARTICULAR:

1. THE CONSTRUCTION ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING AND FLOW OF MUD ONTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH STONE AS CONDITIONS DEMAND. ALL MATERIALS SPILLED, DROPPED, WASHED, OR TRACKED FROM VEHICLE OR SITE ONTO ROADWAY MUST BE REMOVED IMMEDIATELY.

2. THE PERIMETER SILT FENCE BARRIERS WILL BE CHECKED REGULARLY FOR UNDERMINING.

3. GRAVEL FILTERS AND GRAVEL SOCKS WILL BE CHECKED REGULARLY FOR SEDIMENTATION BUILDUP AND CLEANED AS REQUIRED.

EROSION CONTROL STANDARD NOTES

1. THIS EROSION AND SEDIMENTATION CONTROL PLAN HAS BEEN PLACED IN THE CITY OR STATES FILE FOR THIS PROJECT AND APPEARS TO FULFILL THE CITY AND STATES EROSION CONTROL CRITERIA AND REQUIREMENTS. IT IS UNDERSTOOD THAT ADDITIONAL EROSION CONTROL MEASURES MAY BE REQUIRED OF THE OWNER DUE TO UNFORESEEN EROSION PROBLEMS OR IF THE SUBMITTED PLAN DOES NOT FUNCTION AS INTENDED. IF UNFORESEEN EROSION PROBLEMS DO OCCUR OR IF THE PLAN DOES NOT FUNCTION AS INTENDED, THE CITY OR STATE INSPECTOR MAY REQUIRE MODIFICATIONS, ADDITIONS, OR REPAIRS AT THE TIME OF INSPECTION.

2. THESE REQUIREMENTS SHALL BE THE OBLIGATION OF THE OWNER, SITE DEVELOPER, CONTRACTOR, AND/OR THEIR AUTHORIZED AGENTS, UNTIL SUCH TIME AS THE PLAN IS CERTIFIED AS PROPERLY COMPLETED, OR UNTIL SUCH TIME AS OTHERWISE ALLOWED BY THE CITY OR STATE TO BE VOIDED, MODIFIED, OR REPLACED.

3. THIS PLAN SHALL BE KEPT ON SITE AT ALL TIMES AND MODIFIED AS NECESSARY. THE MODIFIED (LIVING MAP) SHALL BE ACCESSIBLE TO INSPECTORS DURING WORKING HOURS. A COPY OF THE STATE SWPPP PERMIT ALONG WITH ALL INSPECTION REPORTS SHALL BE KEPT IN A BINDER AVAILABLE TO INSPECTORS DURING WORKING HOURS.

4. ANY DISCREPANCY BETWEEN THIS PLAN AND AN APPROVED STORM WATER MANAGEMENT PLAN FOR THIS SITE SHALL REQUIRE COMPLIANCE WITH THE MORE RESTRICTIVE PLAN.

5. THE OWNER, SITE DEVELOPER, CONTRACTOR AND/OR THEIR AUTHORIZED AGENTS SHALL REMOVE ALL SEDIMENT, MUD, AND CONSTRUCTION DEBRIS THAT MAY ACCUMULATE IN THE FLOW LINES, PRIVATE PROPERTY, AND PUBLIC RIGHTS OF WAYS OF THE CITY AS A RESULT OF THIS CONSTRUCTION PROJECT. REMOVAL SHALL BE CONDUCTED WITHIN 48 HOURS.

6. THE OWNER, SITE DEVELOPER, CONTRACTOR AND/OR THEIR AUTHORIZED AGENTS SHALL PREVENT SEDIMENT, DEBRIS, AND ALL OTHER POLLUTANTS FROM ENTERING THE STORM SEWER SYSTEM DURING ALL DEMOLITION, EXCAVATION, TRENCHING, BORING, GRADING OR OTHER CONSTRUCTION OPERATIONS THAT ARE PART OF THIS PROJECT. THE OWNER, SITE DEVELOPER, CONTRACTOR, AND/OR THEIR AUTHORIZED AGENTS SHALL BE RESPONSIBLE FOR REMEDIATION OF ANY ADVERSE IMPACTS TO ADJACENT WATERWAYS, WETLANDS, OTHER PROPERTIES, ETC., RESULTING FROM WORK DONE AS PART OF THIS PROJECT.

7. ROUGH-CUT STREETS SHALL BE MULCHED OR SIMILARLY PROTECTED WITHIN THE 30-DAY PERIOD AFTER COMPLETION OF OVERALL GRADING.

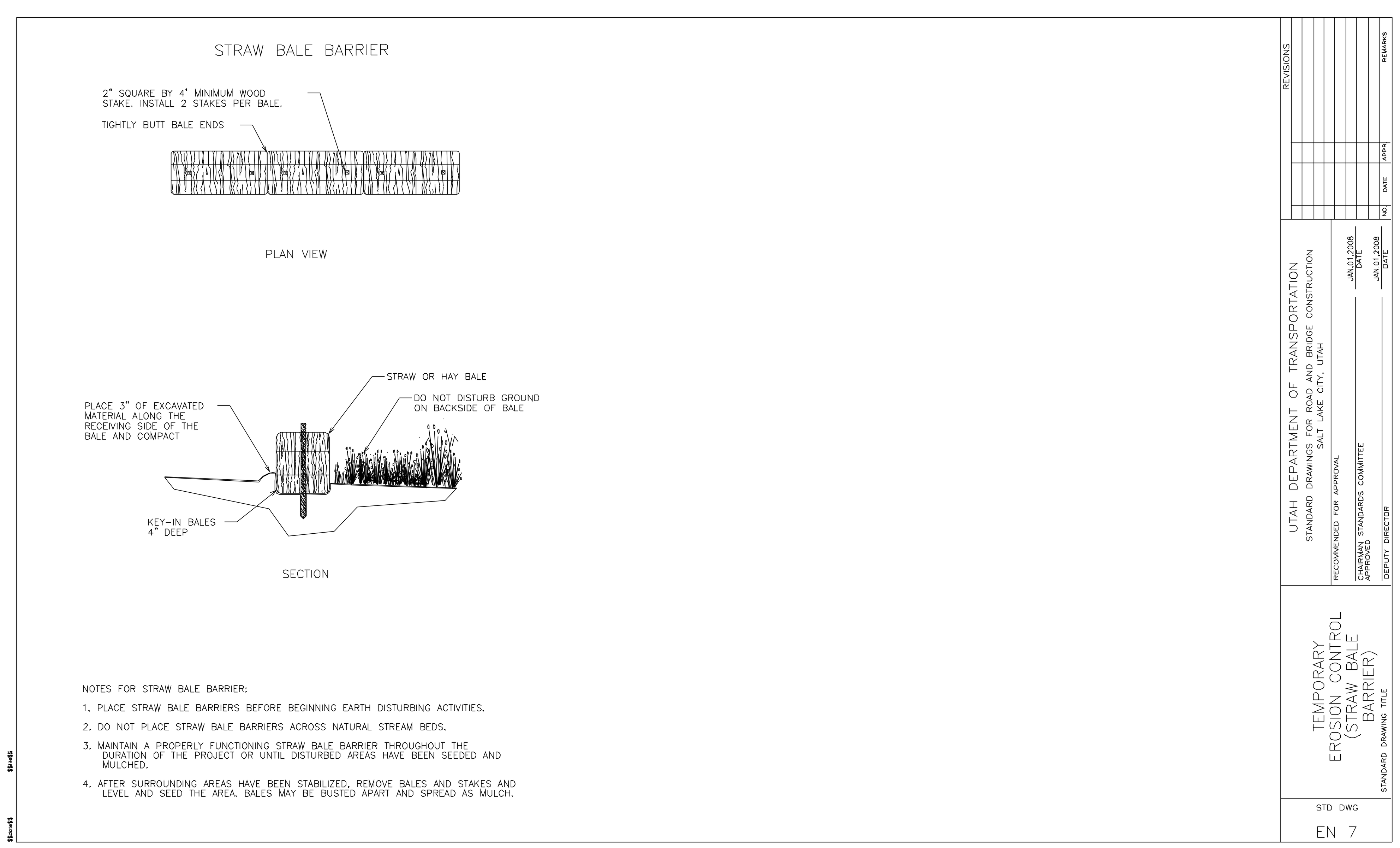
8. THE OWNER, SITE DEVELOPER, CONTRACTOR AND/OR THEIR AUTHORIZED AGENTS SHALL PREVENT LOSS OF CUT AND FILL MATERIAL BEING TRANSPORTED TO AND FROM THE SITE BY TAKING APPROPRIATE MEASURES. ALL MUD AND SEDIMENT TRACKED ONTO PUBLIC STREETS SHALL BE CLEANED IMMEDIATELY BY OWNER, SITE DEVELOPER, CONTRACTOR, AND/OR THEIR AUTHORIZED AGENTS. STREET CLEANING INCLUDES SHOVELING AND SWEEPING ACTIVITIES. AT NO TIME SHALL SEDIMENTS BE WASHED DOWN UNPROTECTED INLETS INTO THE CITY STORM SEWER SYSTEM.

9 SOILS THAT WILL BE STOCKPILED FOR MORE THAN 30 DAYS SHALL BE MULCHED AND SEEDED WITH A TEMPORARY OR PERMANENT GRASS COVER WITHIN 14 DAYS OF STOCKPILE CONSTRUCTION.

10. IF STOCKPILES ARE LOCATED WITHIN 100 FEET OF A DRAINAGEWAY, ADDITIONAL SEDIMENT CONTROLS SUCH AS TEMPORARY DIKES OR SILT FENCE SHALL BE REQUIRED.

11. TOPSOIL SHALL BE SALVAGED AND NOT REMOVED FROM THE SITE EXCEPT AS SET FORTH IN THE APPROVED PLANS. TOPSOIL AND OVERBURDEN SHALL BE SEGREGATED AND STOCKPILED SEPARATELY. SUITABLE OVERBURDEN AND THEN TOPSOIL SHALL BE REDISTRIBUTED WITHIN THE GRADED AREA AFTER ROUGH GRADING TO PROVIDE A SUITABLE BASE FOR AREAS WHICH WILL BE VEGETATED. RUNOFF FROM STOCKPILE AREAS SHALL BE CONTROLLED TO PREVENT SEDIMENT ENTERING RECEIVING WATERS.

12. TEMPORARY SOIL STABILIZATION MEASURES SHALL BE APPLIED: (1) TO DISTURBED AREAS AND STOCKPILES WITHIN 14 DAYS AFTER FINAL GRADE IS REACHED, (2) WITHIN 14 DAYS TO DISTURBED AREAS WHICH MAY NOT BE AT FINAL GRADE BUT WILL REMAIN DORMANT FOR LONGER THAN 30 DAYS, AND (3) WITHIN 14 DAYS OF STOCKPILE CONSTRUCTION ON ANY STOCKPILE WHICH WILL REMAIN DORMANT FOR LONGER THAN 30 DAYS.



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REVISIONS:

SOUTHERN UTAH MUSEUM OF ART

351 WEST UNIVERSITY BOULEVARD
CEDAR CITY, UTAH 84720

Division of Facilities, Construction Management, Southern Utah University

DRAWN BY:	B.D. -
CHECKED BY:	R.L. -
OWNER PROJECT NO.:	-
GSBS PROJECT NO.:	2010.084.00
ISSUED DATE:	5/16/2012

SWPP DETAILS 2

CE 110

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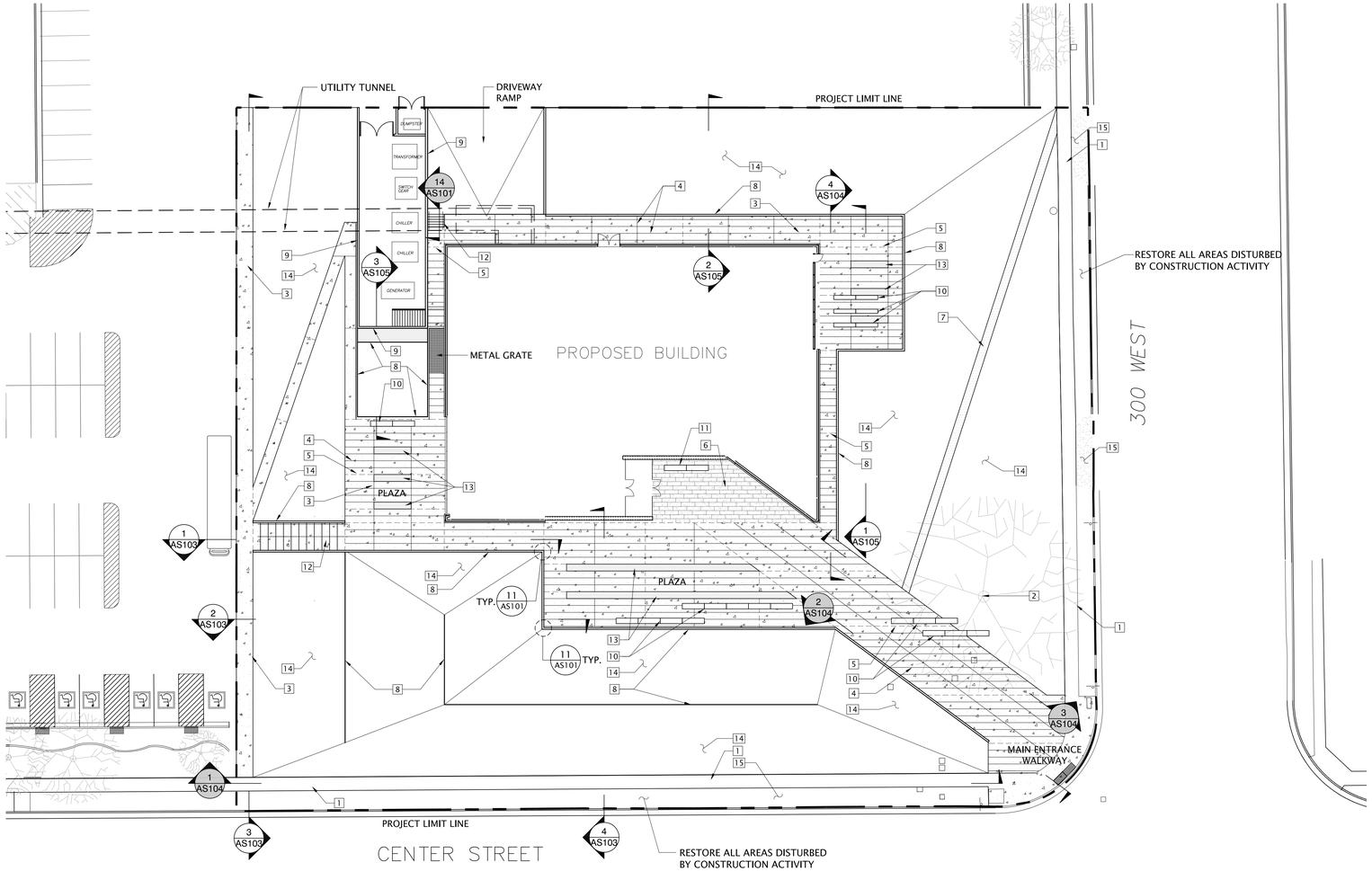
REVISIONS:

REFERENCE NOTES SCHEDULE

SYMBOL	DESCRIPTION
1	EXISTING CONC. WALK
2	EXISTING TREE TO REMAIN
3	CONCRETE WALK (NEW) - 4/AS101
4	CONCRETE SCORE LINES, TYP.
5	CONCRETE EXPANSION JOINT, TYP.
6	SANDSTONE PAVERS - 3,6/AS101
7	GRAVEL PAVING - 7/AS101
8	STEEL WALL - 10/AS101
9	STEEL WALL ON CONCRETE - 12/AS101
10	COURTYARD STONE BENCH - 5/AS101
11	ENTRANCE STONE BENCH - 13/AS101
12	CONCRETE STAIRS AND HANDRAIL - 8,9/AS101
13	CRUSHER FINES - 2/AS101
14	PLANTING
15	TURF



NORTH

0 20 40 60 feet

1" = 20'

SOUTHERN UTAH MUSEUM OF ART

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Division of Facilities Construction Management, Southern Utah University

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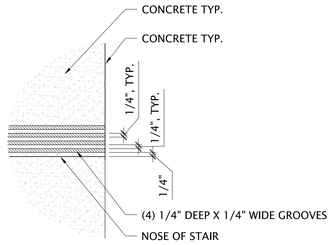
OWNER PROJECT NO.:	
GSBS PROJECT NO.:	2010.084.00
ISSUED DATE:	5/16/2012

SITE PLAN

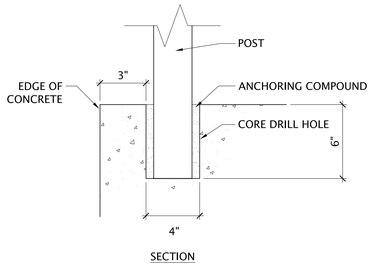
SITE PLAN (1 / AS100)

SCALE: 1" = 20' - 0"

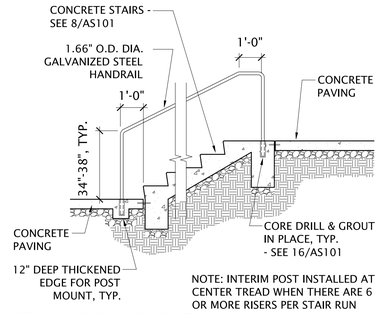
AS100



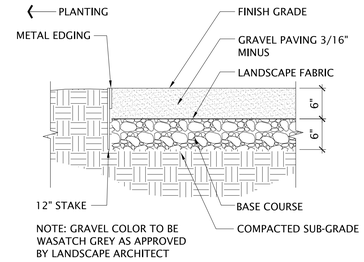
17 STAIR NOSING
3" = 1'-0" H-22



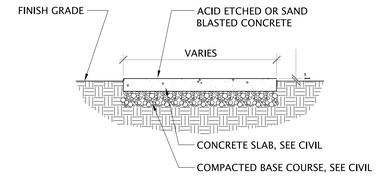
16 POST ANCHORING DETAIL
3" = 1'-0" SUM-15



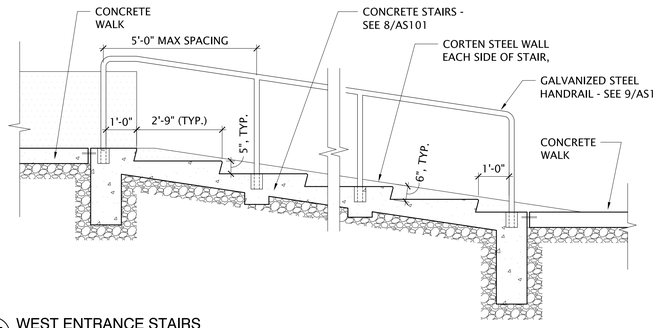
9 HANDRAIL AT STAIRS
3/8" = 1'-0" 055213-08



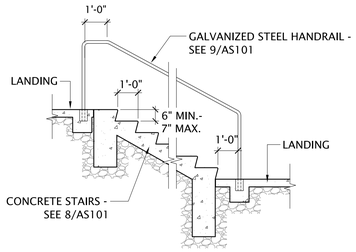
7 GRAVEL PATH
1" = 1'-0" 321516-04



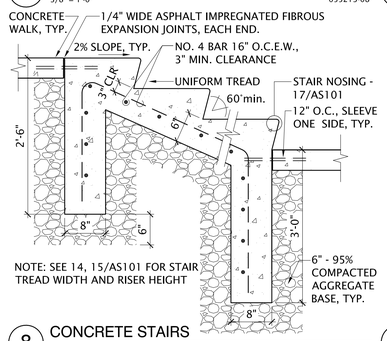
4 ACID ETCHED CONCRETE WALK
1/2" = 1'-0" 321313.13-11



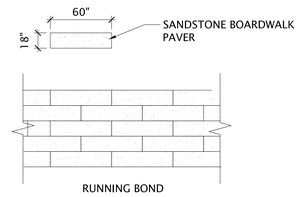
15 WEST ENTRANCE STAIRS
1/2" = 1'-0" SUM-11



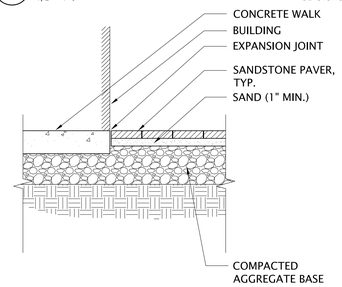
14 LOADING DOCK STAIRS
3/8" = 1'-0" SUM-10



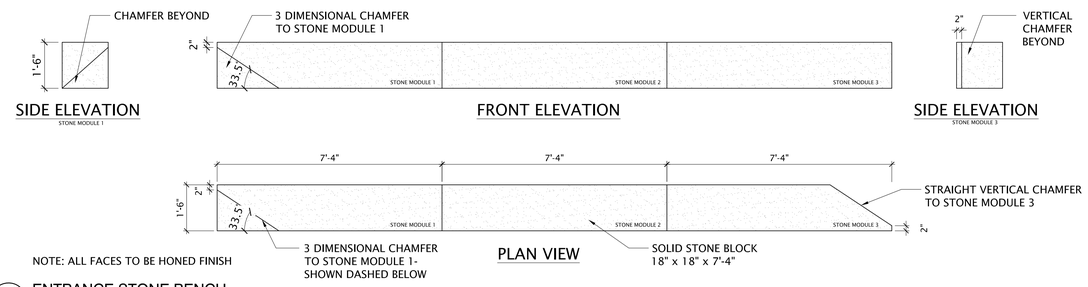
8 CONCRETE STAIRS
1" = 1'-0" WSU-WSUD-03



6 BOARDWALK PAVER
1/4" = 1'-0" 321413-13

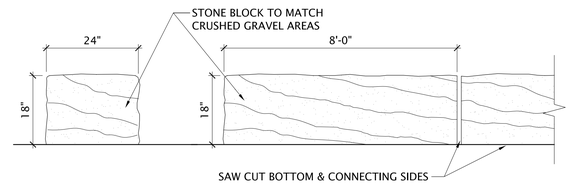


3 SANDSTONE PAVERS
3/4" = 1'-0" 321413-12



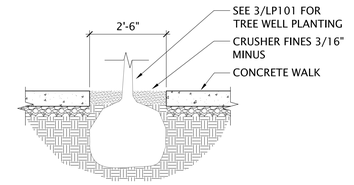
NOTE: ALL FACES TO BE HONED FINISH

13 ENTRANCE STONE BENCH
1/2" = 1'-0" SUM-13



NOTE: TOP TO BE HONED FINISH, ALL OTHER SIDES TO BE SANDBLASTED TO A ROUGHENED NATURAL LOOKING FACE

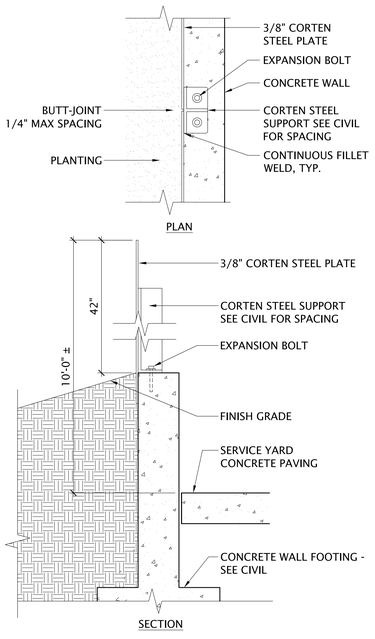
5 COURTYARD STONE BENCH
3/4" = 1'-0" 129343.13-19



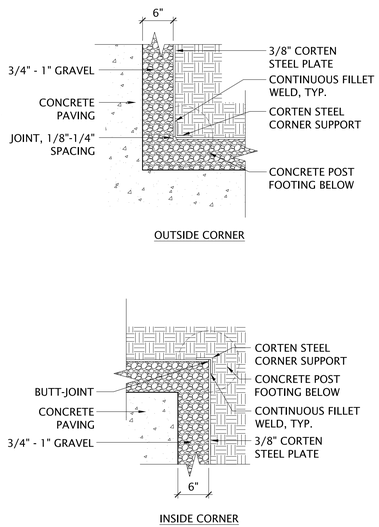
NOTE: CRUSHER FINES COLOR TO BE WASATCH GREY AS APPROVED BY LANDSCAPE ARCHITECT

2 TREE WELL SECTION
1/2" = 1'-0" SUM-07

NOTE: WALL DETAILS ILLUSTRATE ARCHITECTURAL FINISHES ONLY. SEE CIVIL FOR TECHNICAL INFORMATION.

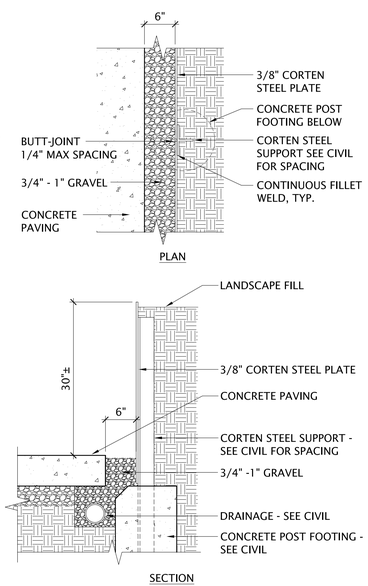


12 CORTEN STEEL WALL ON CONCRETE
1" = 1'-0" SUM-12



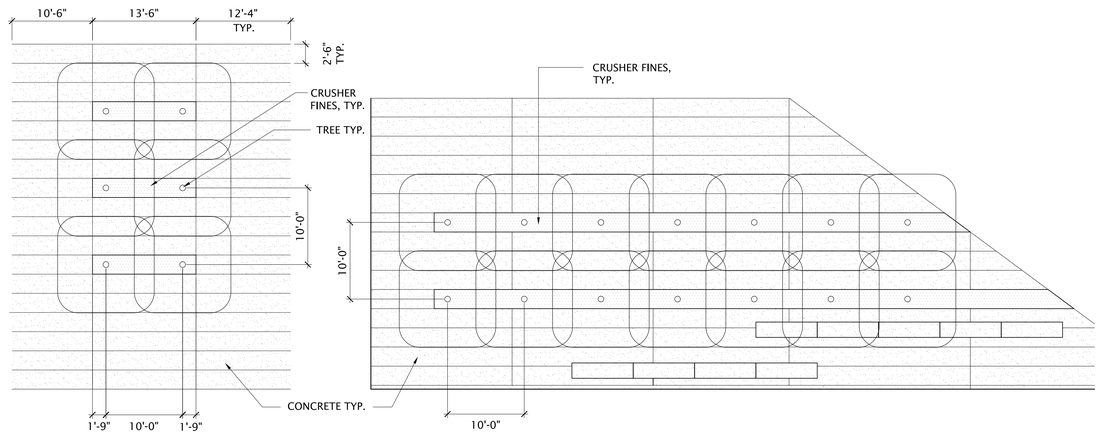
NOTE: GRAVEL TO BE WASATCH GREY COLOR AS APPROVED BY LANDSCAPE ARCHITECT

11 CORTEN STEEL WALL CORNERS
1" = 1'-0" SUM-09



NOTE: GRAVEL COLOR TO BE WASATCH GREY AS APPROVED BY LANDSCAPE ARCHITECT

10 CORTEN STEEL WALL
1" = 1'-0" SUM-08



1 TREE LAYOUT PLAN
1/8" = 1'-0" SUM-01

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SITE DETAILS

AS101

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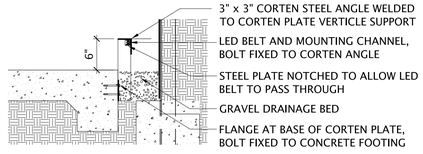
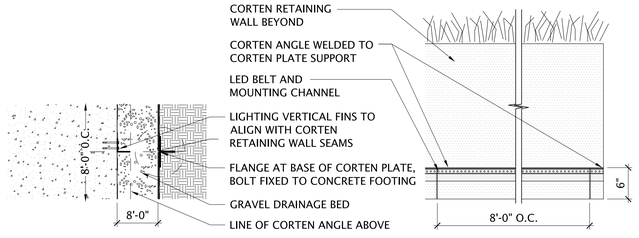


SECTION DETAIL



PLAN VIEW

PARTIAL ELEVATION

1 SITE LIGHTING
1" = 1'-0"

SUM-14

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SITE DETAILS

AS102

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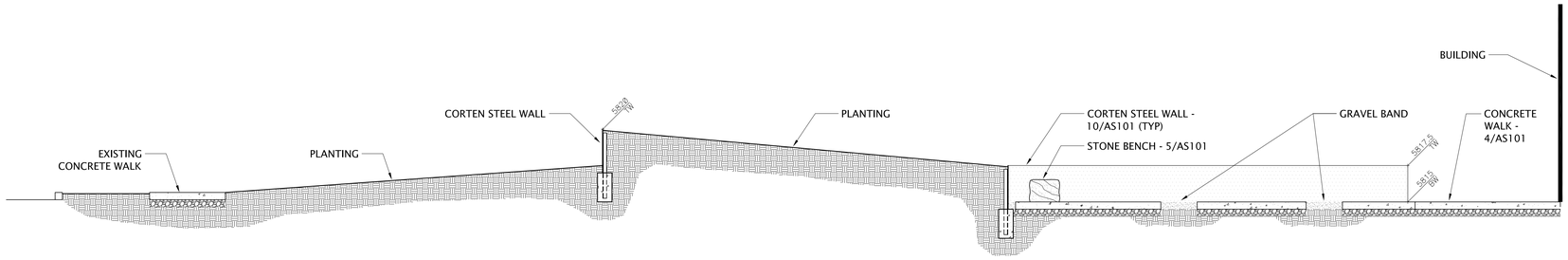
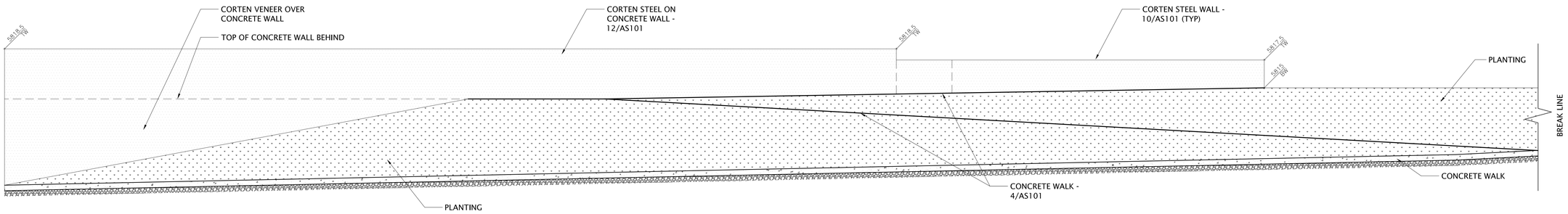
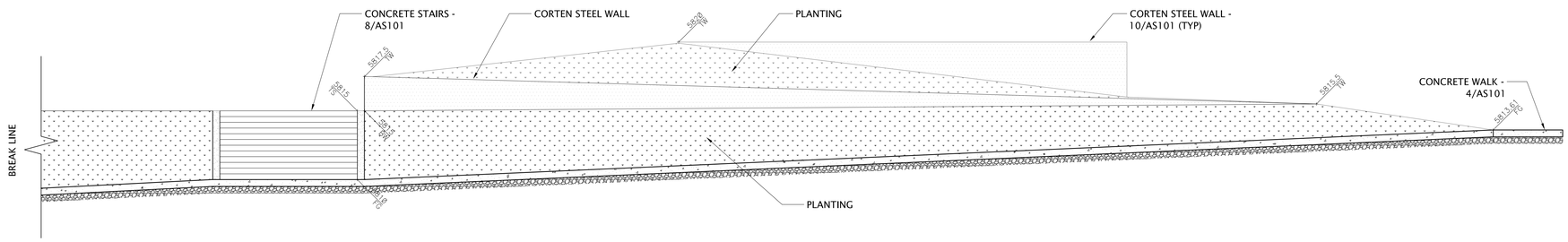
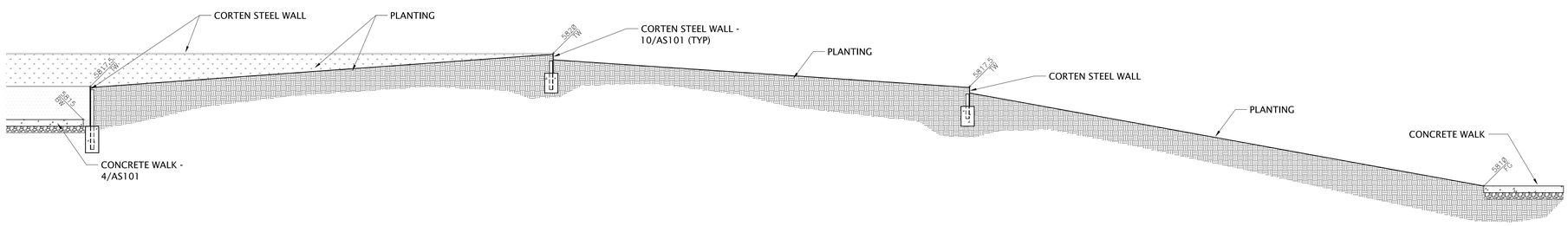


4 SECTION - ELEVATION 4
1/4"=1'-0"

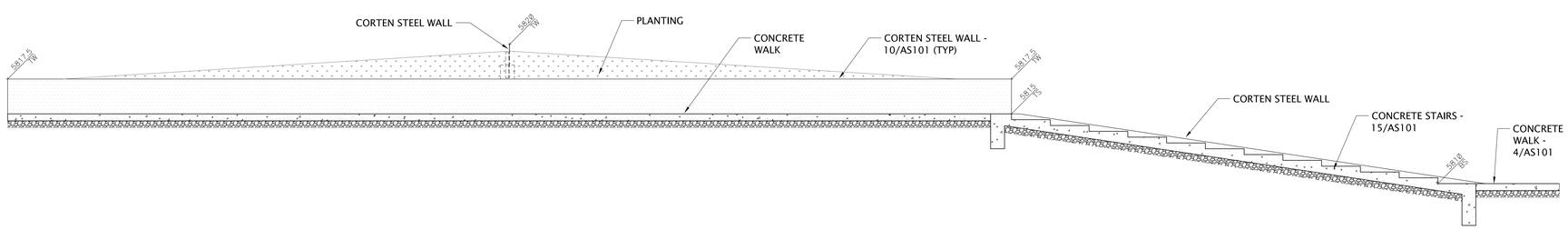




3 SECTION - ELEVATION 3
1/4"=1'-0"



2 SECTION - ELEVATION 2
1/4"=1'-0"



1 SECTION - ELEVATION 1
1/4"=1'-0"

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REVISIONS:

SOUTHERN UTAH MUSEUM OF ART

351 WEST UNIVERSITY BOULEVARD
CEDAR CITY, UT 84720

Division of Facilities Construction Management, Southern Utah University

DRAWN BY:	TK, LE
CHECKED BY:	DG
OWNER PROJECT NO.:	
GSBS PROJECT NO.:	2010.084.00
ISSUED DATE:	5/16/2012

EXTERIOR WALL SECTION-ELEVATIONS

AS103

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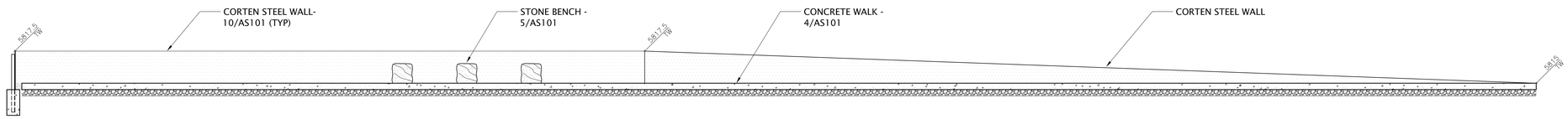
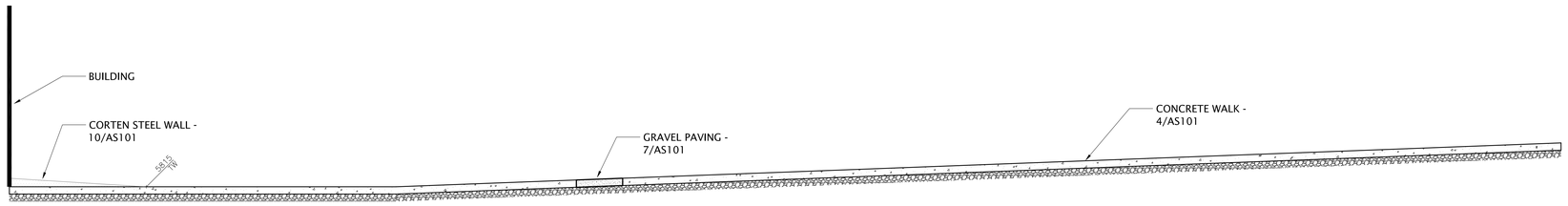
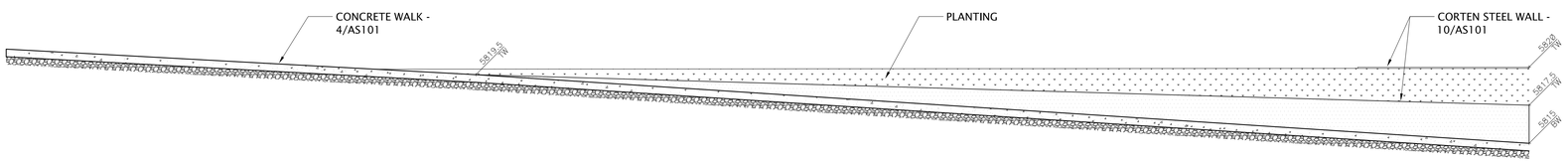


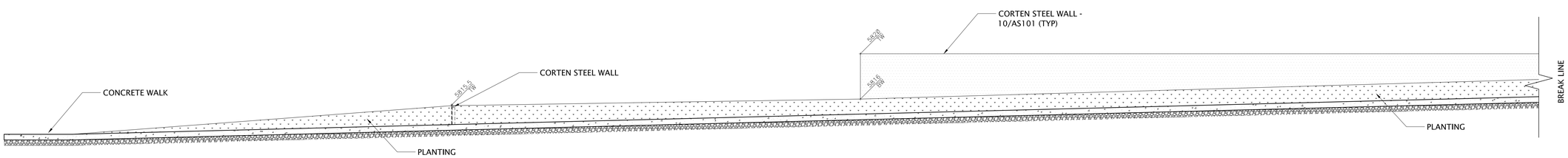
4 SECTION - ELEVATION 8
1/4"=1'-0"

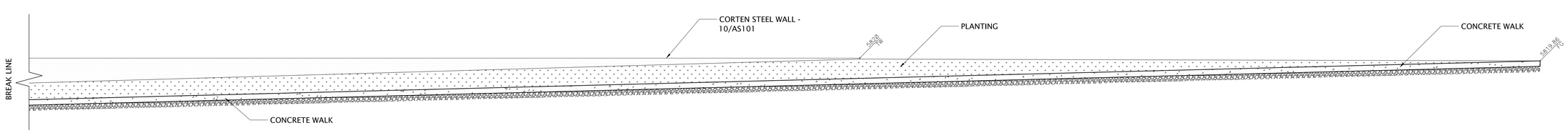


3 SECTION - ELEVATION 7
1/4"=1'-0"



2 SECTION - ELEVATION 6
1/4"=1'-0"





1 SECTION - ELEVATION 5
1/4"=1'-0"

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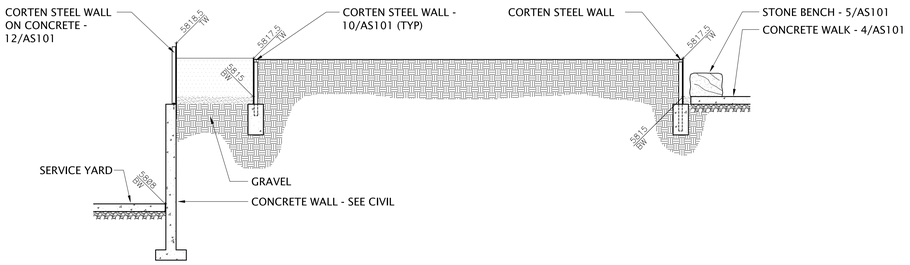
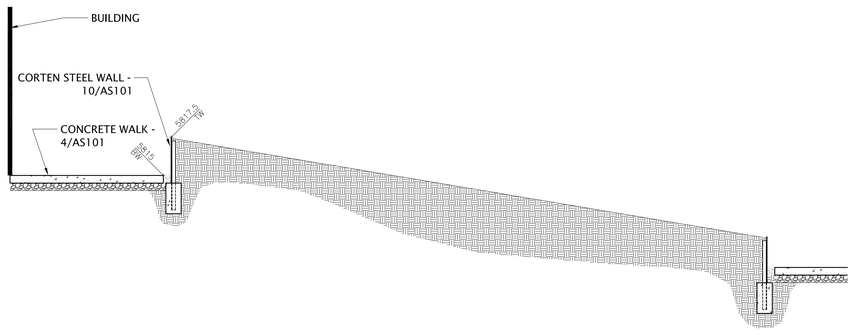
EXTERIOR WALL SECTION-ELEVATIONS

AS104



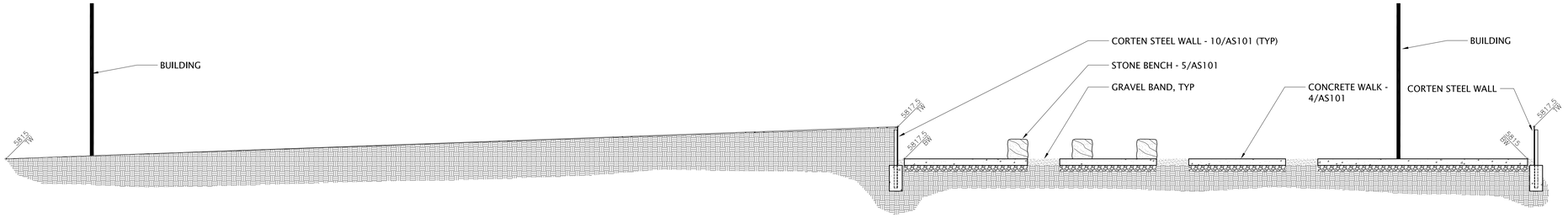
3 SECTION - ELEVATION 11

1/4"=1'-0"



2 SECTION - ELEVATION 10

1/4"=1'-0"



1 SECTION - ELEVATION 9

1/4"=1'-0"

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EXTERIOR WALL SECTION-ELEVATIONS

AS105

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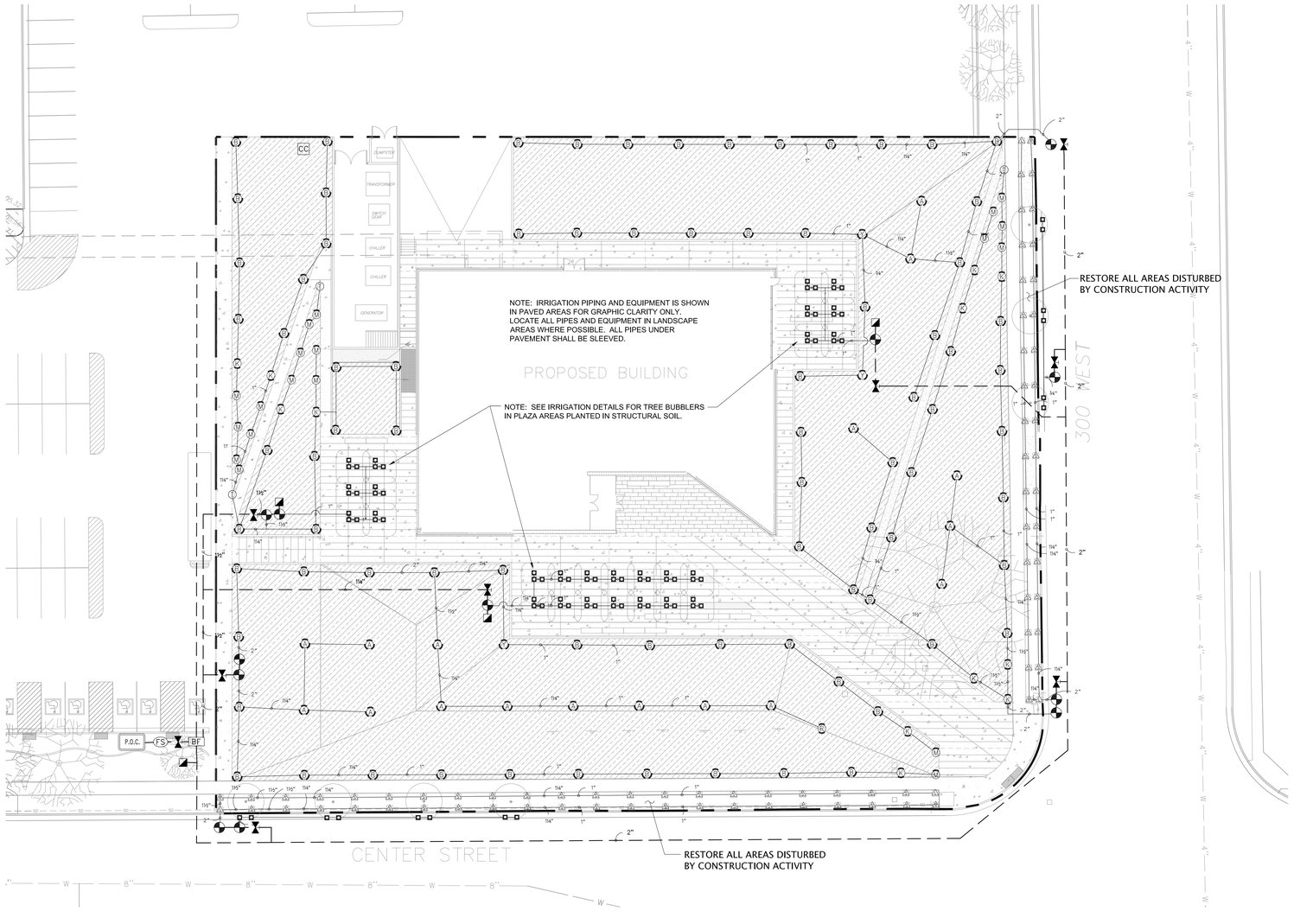
IRRIGATION SCHEDULE

SYMBOL	MANUFACTURER/MODEL/DESCRIPTION	PSI
EST LCS RCS CST SST	RAIN BIRD 1804-SAM-PRS 15 STRIP SERIES TURF SPRAY 4.0" POP-UP SPRINKLER WITH CO-MOLDED WIPER SEAL. 1/2" NPT FEMALE THREADED INLET. WITH SEAL-A-MATIC CHECK VALVE. PRESSURE REGULATING.	30
M O	HUNTER MP1000 PROS-12-CV SHRUB ROTATOR, 12" (30.48 CM) POP-UP WITH CHECK VALVE, PRESSURE REGULATED TO 40 PSI (2.76 BAR), MP ROTATOR NOZZLE. M=MAROON ADJ ARC 90 TO 210, L=LIGHT BLUE 210 TO 270 ARC, O=OLIVE 360 ARC ON PRS40 BODY.	40
K G R	HUNTER MP2000 PROS-12-CV SHRUB ROTATOR, 12" (30.48 CM) POP-UP WITH CHECK VALVE, PRESSURE REGULATED TO 40 PSI (2.76 BAR), MP ROTATOR NOZZLE. K=BLACK ADJ ARC 90-210, G=GREEN ADJ ARC 210-270, R=RED 360 ARC ON PRS40 BODY.	40
B Y A	HUNTER MP3000 PROS-12-CV SHRUB ROTATOR, 12" (30.48 CM) POP-UP WITH CHECK VALVE, PRESSURE REGULATED TO 40 PSI (2.76 BAR), MP ROTARY NOZZLE. B=BLUE ADJ ARC 90-210, Y=YELLOW ADJ ARC 210-270, A=GRAY 360 ARC ON PRS40 BODY.	40
T	HUNTER MP CORNER PROS-12-CV SHRUB ROTATOR, 12" (30.48 CM) POP-UP WITH FACTORY INSTALLED CHECK VALVE. PRESSURE REGULATED TO 40 PSI (2.76 BAR), MP ROTATOR NOZZLE. T=TURQUOISE ADJ ARC 45-105 ON PRS40 BODY.	40
1402 1406 1401 1404	RAIN BIRD 1800-1400 FLOOD FLOOD BUBBLER ON FIXED RISER, SEE DETAILS FOR INTALLATION IN RING UNDER PLAZA AREAS.	30

SYMBOL	MANUFACTURER/MODEL/DESCRIPTION
	HUNTER ICV ELECTRIC REMOTE CONTROL VALVE, PLASTIC GLOBE.
	RAIN BIRD 44-LRC 1" BRASS QUICK-COUPLING VALVE, WITH CORROSION-RESISTANT STAINLESS STEEL SPRING, LOCKING THERMOPLASTIC RUBBER COVER, AND 2-PIECE BODY.
	NIBCO T-113-K CLASS 125 BRONZE GATE SHUT OFF VALVE WITH CROSS HANDLE, SAME SIZE AS MAINLINE PIPE DIAMETER AT VALVE LOCATION. SIZE RANGE - 1/4" - 3"
BF	WILKINS 375 2-1/2" REDUCED PRESSURE BACKFLOW PREVENTER
CC	RAIN BIRD ESP-24SITE-S 24 STATION FIELD SATELLITE CONTROLLER FOR MAXICOM ONLY. COMBINES POWER OF A CCU WITH CAPABILITIES OF A SINGLE ESP SATELLITE CONTROLLER FOR SMALL MAXICOM SITES. STAINLESS STEEL PEDESTAL.
FS	RAIN BIRD FS-200-P 2" FLOW SENSOR FOR USE WITH RAIN BIRD MAXICOM, SITECONTROL, AND ESP-LXD CENTRAL CONTROL SYSTEMS. PLASTIC (PVC) MODEL. SUGGESTED OPERATING RANGE OF 10.0 GPM TO 200.0 GPM. SENSORS SHOULD BE SIZED FOR FLOW RATHER THAN PIPE SIZE.
P.O.C.	POINT OF CONNECTION 3"
	IRRIGATION LATERAL LINE: PVC SCHEDULE 40 PVC SCHEDULE 40 IRRIGATION PIPE. ONLY LATERAL TRANSITION PIPE SIZES 1" AND ABOVE ARE INDICATED ON THE PLAN, WITH ALL OTHERS BEING 3/4" IN SIZE.
	IRRIGATION MAINLINE: PVC SCHEDULE 40

Valve Callout
- Valve Number
- Valve GPM
- Valve Size



NORTH

0 20 40 60 feet

1" = 20'

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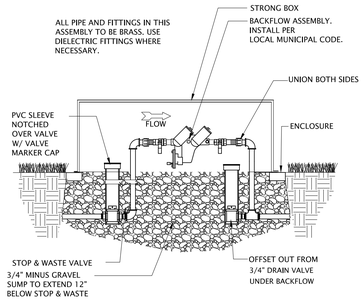
IRRIGATION PLAN

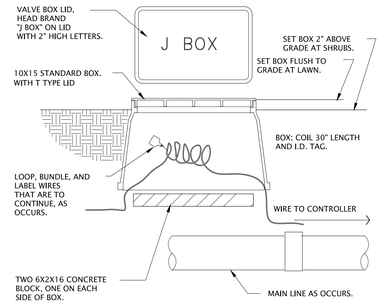
IRRIGATION PLAN (1 / LI100)
SCALE: 1" = 20' - 0"

LI100



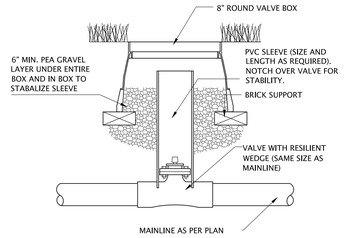
5 RP BACKFLOW ASSEMBLY

1" = 1'-0" 328409.46-11



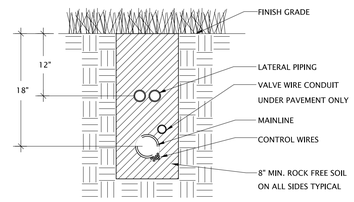
9 WIRE BUNDLE JUNCTION BOX

1 1/2" = 12" 02810-86001



4 GATE VALVE

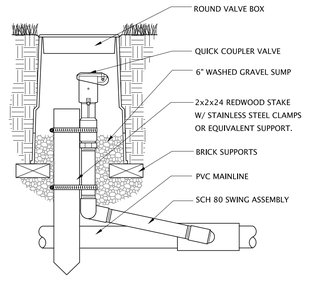
3" = 12" 328406.19-20



NOTE: ALL PIPE RUNNING UNDER PAVEMENT SHALL BE IN SLEEVING, SIZE AS REQUIRED.

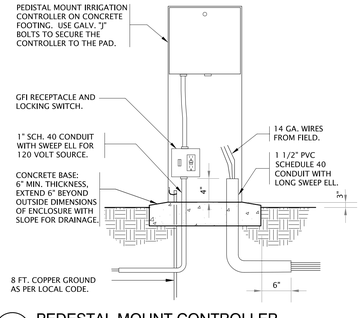
8 TRENCH SECTION

NTS 328409.76-13



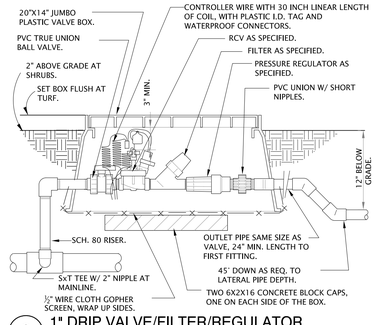
3 QUICK COUPLER

1" = 12" 328406.43-10



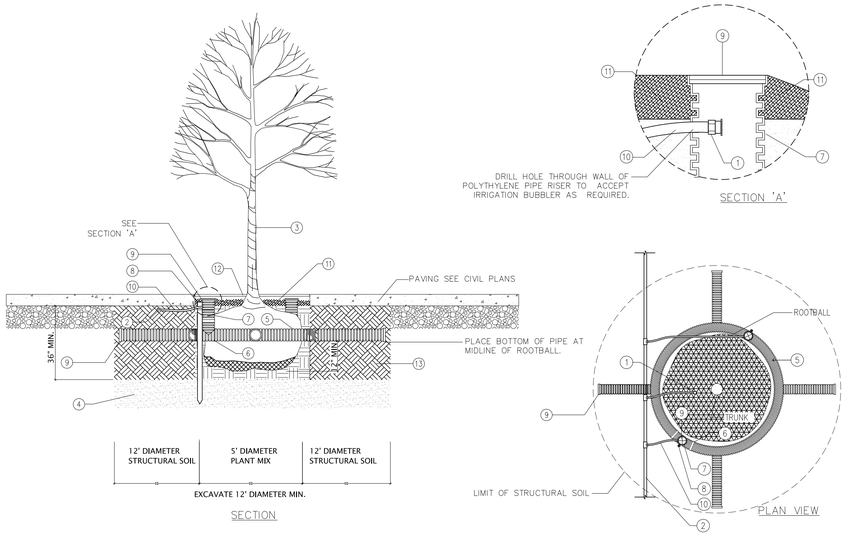
7 PEDESTAL MOUNT CONTROLLER

1" = 12" 328409.50-03



2 1" DRIP VALVE/FILTER/REGULATOR

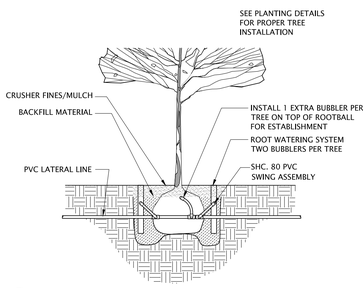
1 1/2" = 12" 02810-31155



1. BUBBLER AS INDICATED ON IRRIGATION PLAN
2. IRRIGATION LATERAL LINE
3. SEE PLANTING DETAIL.
4. UNDISTURBED SUBGRADE
5. 4" ø SINGLE-WALL CORRUGATED POLYETHYLENE WATERING PIPE (PERFORATED). PLACE BOTTOM OF PIPE AT MIDLINE OF ROOTBALL.
6. 4" ø POLYETHYLENE SNAP TEE FITTING.
7. 4" ø POLYETHYLENE PIPE RISER.
8. ½" ø X 24" REBAR SET PLUMB. SECURE PIPE TO REBAR WITH WIRE TIE.
9. 4" ø POLYETHYLENE SOLID END PLUG.
10. ¼" POLYETHYLENE SWING PIPE, LENGTH AS NEEDED
11. BARK MULCH
12. TREE GRATE
13. STRUCTURAL SOIL

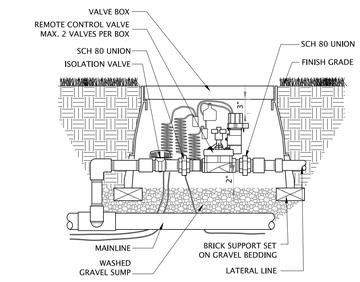
10 TREE RING IRRIGATION IN STRUCTURAL SOIL

3/8" = 1'-0" 32 8409.13-03



6 ROOT WATERING SYSTEM

3/8" = 1'-0" 328403.53-08



1 VALVE ASSEMBLY

1 1/2" = 12" 328406.13-11

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IRRIGATION DETAILS

LI101

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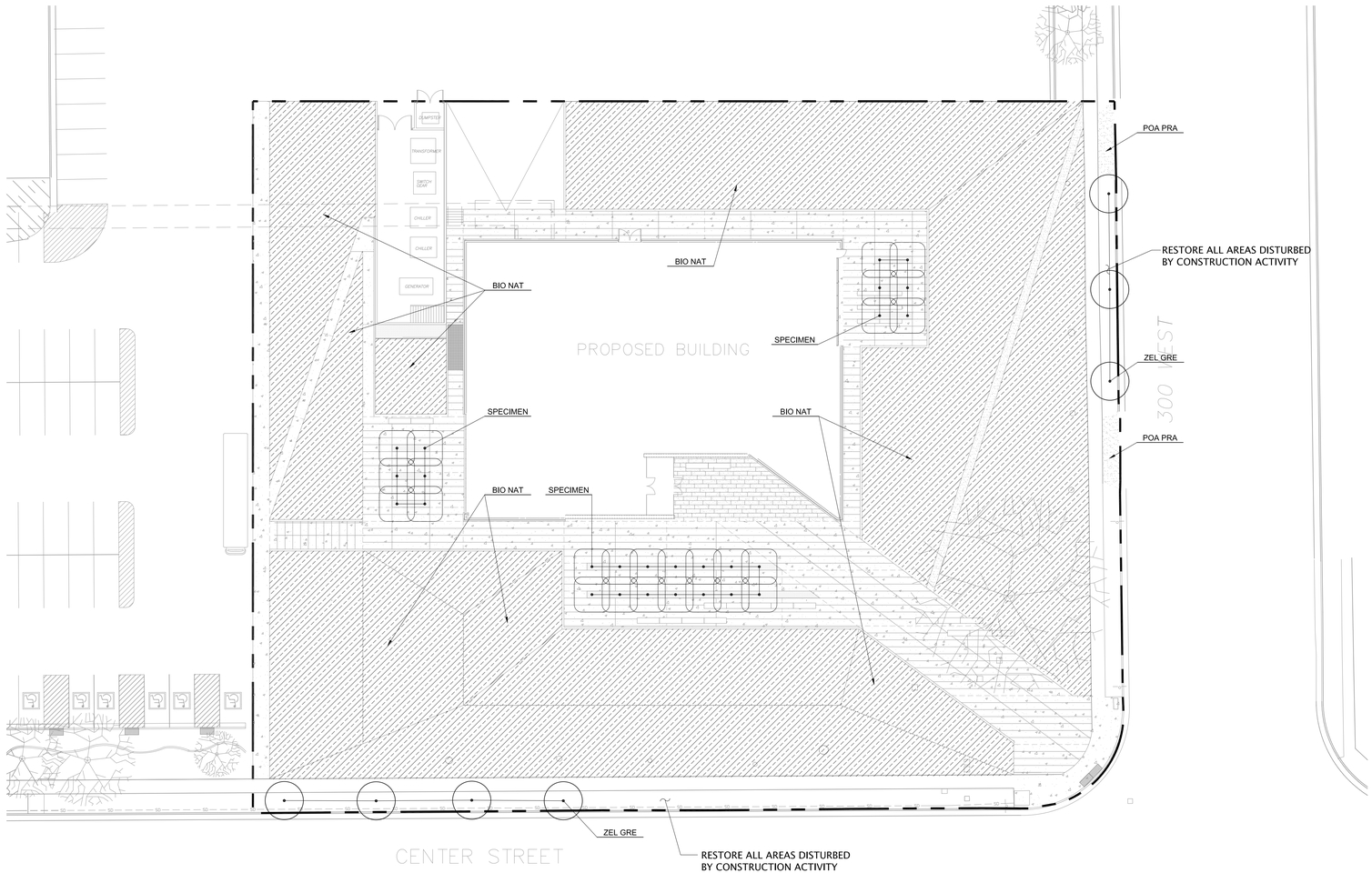
PLANT SCHEDULE

TREES	CODE	BOTANICAL NAME / COMMON NAME	SIZE	CONT
	SPECIMEN	TILIA CORDATA / CHANCELLOR LINDEN NOTE: CONTRACT GROWN, HIGH-LIMBED BOXED FORM	4" CAL	B & B
	ZEL GRE	ZELKOVA SERRATA 'GREENVASE'	2" CAL	B & B

SOD	CODE	BOTANICAL NAME / COMMON NAME	CONT
	POA PRA	POA PRATENSIS / KENTUCKY BLUEGRASS OR MATCH EXISTING	SOD
	BIO NAT	BIO-NATIVE® - NATIVE GRASS MIX BIO GRASS SOD FARM OR APPROVED EQUAL, 801-562-9090	SOD



NORTH

0 20 40 60 feet

1" = 20'

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PLANTING PLAN

PLANTING PLAN (1 / LP100)
SCALE: 1" = 20' - 0"

LP100

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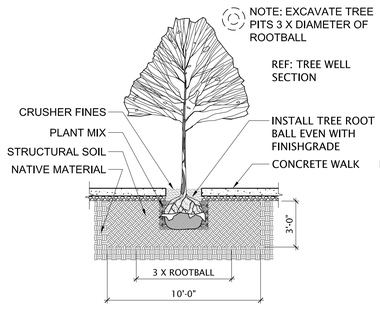
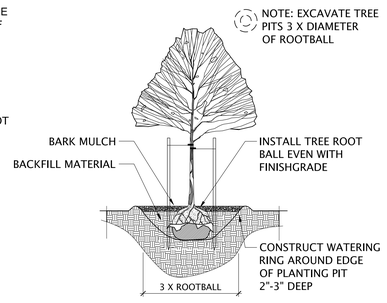
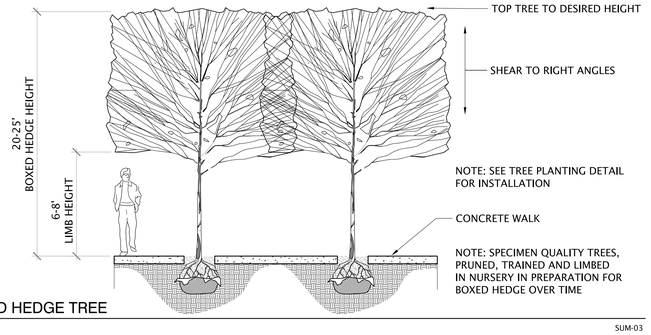


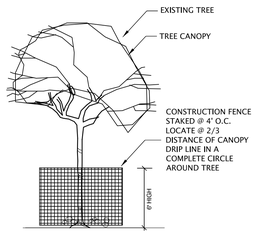
3 TREE PLANTING AT GRAVEL BAND
1/4" = 12" 329346.13-02



2 TREE PLANTING WITH STAKES
1/4" = 1'-0" 329346.16-01



4 BOXED HEDGE TREE
1/4" = 1'-0" SUM-03



TREE PRESERVATION NOTES
1. TREES WITHIN WORK LIMIT AREA SHALL BE FENCED AT THE DRIPLINE. FENCING MAY OCCUR AT THE COMBINED DRIPLINES OF TREES TO BE PRESERVED.
2. FENCING SHALL BE 6-FOOT TALL CHAIN LINK FENCING WITH STEEL POSTS EMBEDDED IN THE GROUND.
3. NO GRADING SHALL OCCUR WITHIN THE DRIPLINES/FENCED AREA OF EXISTING TREES.
4. NO CONSTRUCTION MATERIALS OR CONSTRUCTION VEHICLES MAY BE STORED WITHIN THE DRIPLINES/FENCING AREAS OF EXISTING TREES.
5. CONSTRUCTION VEHICLES OR MACHINERY MAY NOT PASS BETWEEN TWO OR MORE EXISTING TREES IDENTIFIED FOR PRESERVATION IF THEIR CANOPIES ARE WITHIN 10 FEET OF TOUCHING.
6. TREE PRESERVATION MEASURES MUST BE IN PLACE BEFORE CONSTRUCTION, DEMOLITION AND/OR GRADING ACTIVITIES COMMENCE.
7. THE CONTRACTOR IS REQUIRED TO HAVE AN ARBORIST CERTIFIED BY THE INTERNATIONAL SOCIETY OF ARBORICULTURE (ISA) ON SITE, IF SITE CONSTRUCTION EFFORTS REQUIRE REMOVAL OF EXISTING ROOTS OR BRANCH PRUNING.
8. UNAUTHORIZED TREE REMOVAL IS SUBJECT TO IN-KIND REPLACEMENT EQUAL TO THE MATURE RESOURCE LOST, AS DETERMINED BY GSBS.
9. THE CONTRACTOR IS REQUIRED TO WATER, FERTILIZE AND ATTEND TO OTHER MAINTENANCE NEEDS OF EXISTING TREES AS NEEDED TO MAINTAIN HEALTHY GROWTH THROUGHOUT THE CONSTRUCTION PERIOD. SIX FEET DIAMETER, MINIMUM, BY SIX-INCH TALL EARTH BERMS SHALL BE CONSTRUCTED AT THE BASE OF EACH TREE TO FUNCTION AS TEMPORARY WATERING BASINS DURING THE CONSTRUCTION PERIOD. TREES SHALL BE WATERED ACCORDING TO WEATHER AND TREE REQUIREMENTS.

1 TREE PRESERVATION
1" = 1'-0" 329301-04

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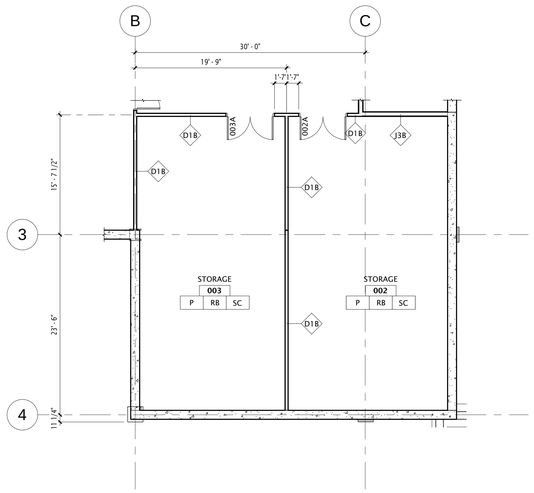
PLANTING DETAILS

LP101



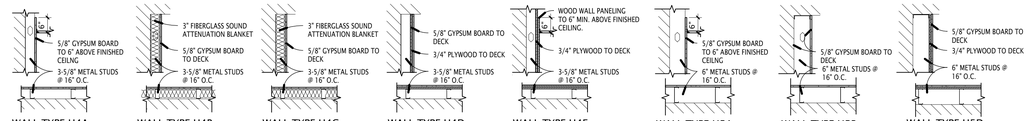
3 AE101 BASEMENT LEVEL BID ALTERNATE 1 PLAN / WTFP
1/8" = 1'-0"

WALL TYPES LEGEND

NON-RATED METAL STUD WALLS

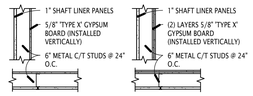
WALL TYPE D1A	NON-RATED		
WALL TYPE D1B	NON-RATED	STC 35	
WALL TYPE D1C	NON-RATED	STC 45	
WALL TYPE D1D	NON-RATED	STC 45	
WALL TYPE D1D	NON-RATED	STC 45	
WALL TYPE D2A	NON-RATED	STC 35	
WALL TYPE D2B	NON-RATED	STC 35	
WALL TYPE D2C	NON-RATED	STC 45	
WALL TYPE D2D	NON-RATED	STC 45	

METAL STUD W/ GYP. 1 SIDE



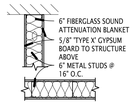
WALL TYPE H4A	NON-RATED
WALL TYPE H4B	NON-RATED
WALL TYPE H4C	NON-RATED
WALL TYPE H4D	NON-RATED
WALL TYPE H4E	NON-RATED
WALL TYPE H5A	NON-RATED
WALL TYPE H5B	NON-RATED
WALL TYPE H5D	NON-RATED

SHAFT WALL ASSEMBLIES



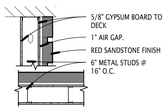
WALL TYPE J3A	1 HR. RATING
WALL TYPE J3B	2 HR. RATING

RATED METAL STUD WALLS



WALL TYPE E2C	2 HR. RATED	STC 40

STONE CLAD METAL STUD WALLS



WALL TYPE A1A	NON-RATED	STC -

PLAN NOTES

1. ALL WALL DIMENSIONS ARE GIVE TO CENTERLINE OF STUD OR FACE OF STUD.
2. ALL DOOR FRAMES TO BE LOCATED 4" MIN. FROM FINISHED FACED OF ADJACENT WALL UNLESS DIMENSIONED OTHERWISE.
3. ALL DOOR & WINDOW ASSEMBLY DIMENSIONS ARE GIVEN FROM CENTERLINE OF STUD TO EDGE OF ROUGH OPENING
5. SEE ENLARGED PLANS FOR FURTHER DIMENSIONS & DETAIL CALL OUTS.
6. ALL ANGLED WALL DIMENSIONS ARE GIVEN TO EDGE OF STUD.
7. ALL EXTERIOR WALL DIMENSIONS ARE GIVEN TO FINISHED FACE STONE.

PLAN LEGEND

FIRE EXTINGUISHER CABINET

FINISH KEY

WALL FLOOR BASE

WALLS		FLOOR	
P	PAINTED GYP. BOARD	CP	CARPET
PMT	PORCELAIN MOSAIC TILE	WD	WOOD PLANK
CG	STAINLESS STEEL CORNER GUARD	LN	LINOLEUM SHEET
G	GLAZING SYSTEM AS SCHEDULED	PMT	PORCELAIN MOSAIC TILE
WD	WOOD VENEER / PLANK	SC	SEALED CONCRETE
		SSC	SEALED/ STAINED CONCRETE
		ST	RED SANDSTONE PAVERS 18" X 5'-0"
		WD	WOOD PANELING
		____	FLOOR TRANSITION
BASE		**MISC.**	
VB	4" VINYL BASE	PL	PLASTIC LAMINATE
WB	FLUSH WOOD BASE	WT	MAGNETIC WHITE BOARD
PMB	PORCELAIN MOSAIC TILE BASE	BB	LINOLEUM BULLETIN BOARD
G	GLAZING SYSTEM AS SCHEDULED	SS	SOLID SURFACE/ QUARTZ COUNTERTOP
		WD	WOOD VENEER (MILLWORK)

NOTES:

1. STAINLESS STEEL CORNER GUARDS (CG) ON ALL OUTSIDE CORNERS, UP TO CHAIR RAIL HEIGHT. 2" FLANGE TYPICAL.
2. WHERE WT (DRY ERASE WALLCOVERING) IS INDICTED, ASSUME ONE WALL IF NOT ELEVATED DIFFERENTLY.
3. WALL TYPE TO CONTINUE AT DOOR & WINDOW OPENINGS (TOP & BOTTOM) UNLESS NOTED OTHERWISE
4. WHERE METAL STUD FURRING OCCURS ADJACENT TO A CMU OR CONCRETE WALL, A COMPLETE SEPERATION BETWEEN WALLS IS REQUIRED. DO NOT ATTACH STUD WALL, FINISH SIDE ELECTRICAL BOXES, CONDUIT, ETC. TO CONCRETE / CMU WALL.
5. USE WATER RESISTANT GYPSUM BOARD "GREEN BOARD" AT ALL WET WALL LOCATIONS, TYP. INCULDING BUT NOT LIMITED TO BATHROOM WALLS AND WALLS WITH TILE OR STONE FINISH.
6. ALL ANGLED WALL DIMENSIONS ARE GIVEN TO EDGE OF STUD.
7. ALL EXTERIOR WALL DIMENSIONS ARE GIVEN TO FINISHED FACE OF STONE.

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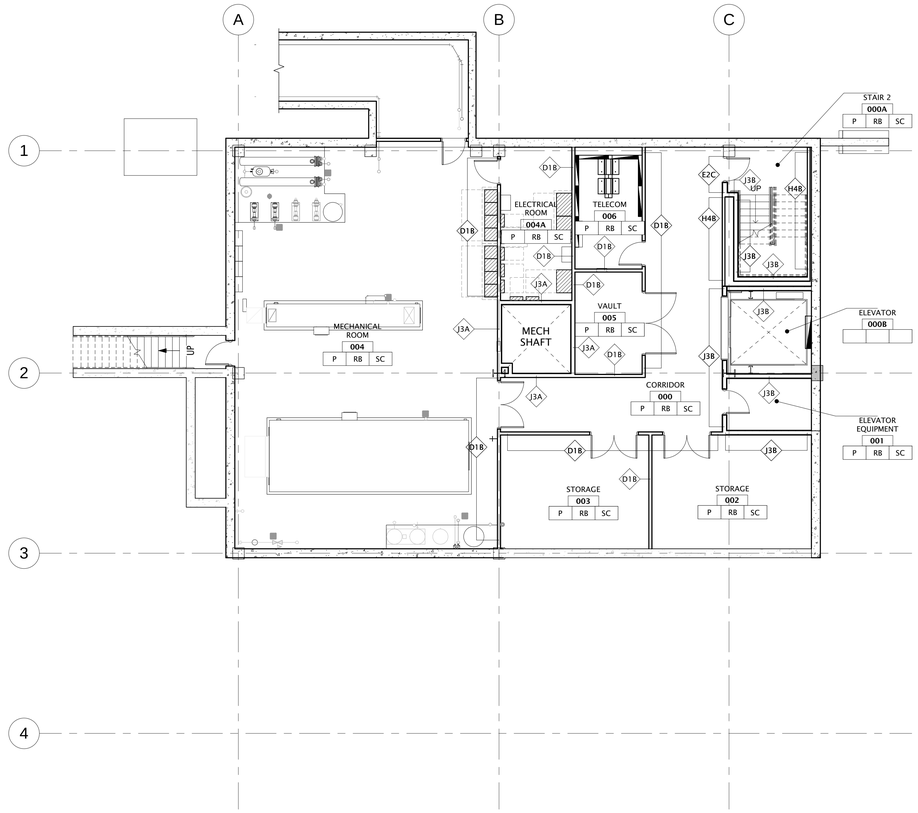
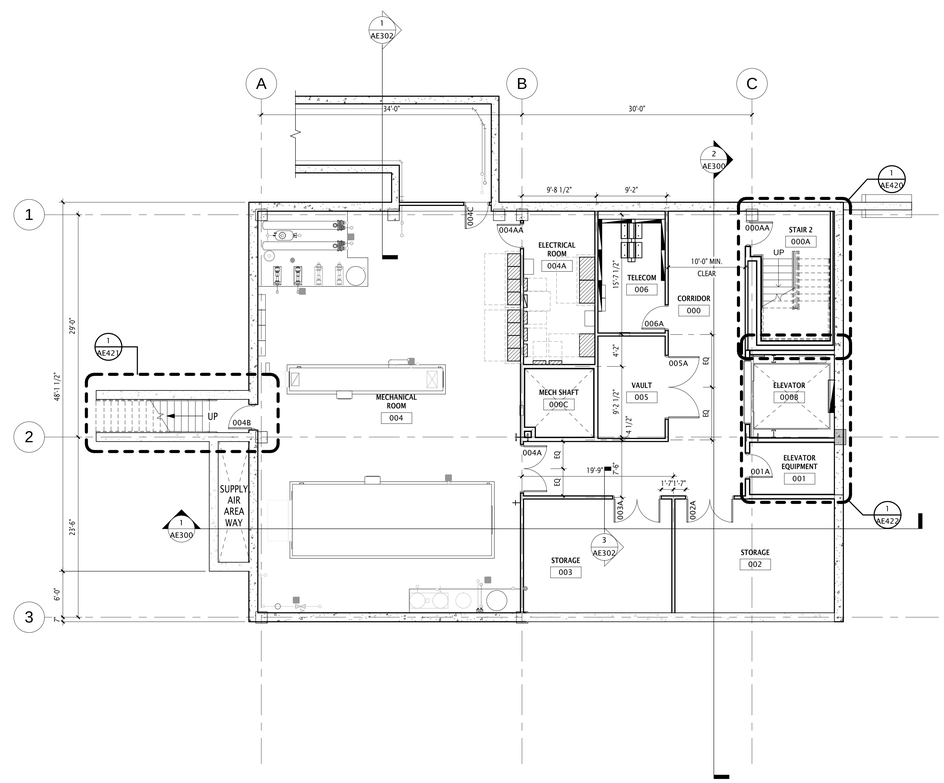


2 AE101 BASEMENT LEVEL WALL TYPES AND FINISHES PLAN
1/8" = 1'-0"



1 AE101 BASEMENT LEVEL FLOOR PLAN
1/8" = 1'-0"

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ISSUED DATE:	05/16/2012

FLOOR PLANS

AE101

PLAN NOTES	PLAN LEGEND
1. ALL WALL DIMENSIONS ARE GIVE TO CENTERLINE OF STUD OR FACE OF STUD. 2. ALL DOOR FRAMES TO BE LOCATED 4" MIN. FROM FINISHED FACED OF ADJACENT WALL UNLESS DIMENSIONED OTHERWISE. 3. ALL DOOR & WINDOW ASSEMBLY DIMENSIONS ARE GIVEN FROM CENTERLINE OF STUD TO EDGE OF ROUGH OPENING 5. SEE ENLARGED PLANS FOR FURTHER DIMENSIONS & DETAIL CALL OUTS. 6. ALL ANGLED WALL DIMENSIONS ARE GIVEN TO EDGE OF STUD. 7. ALL EXTERIOR WALL DIMENSIONS ARE GIVEN TO FINISHED FACE STONE.	FIRE EXTINGUISHER CABINET

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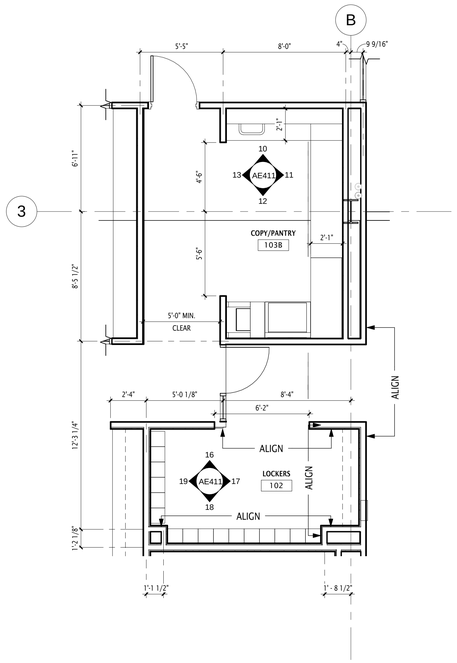
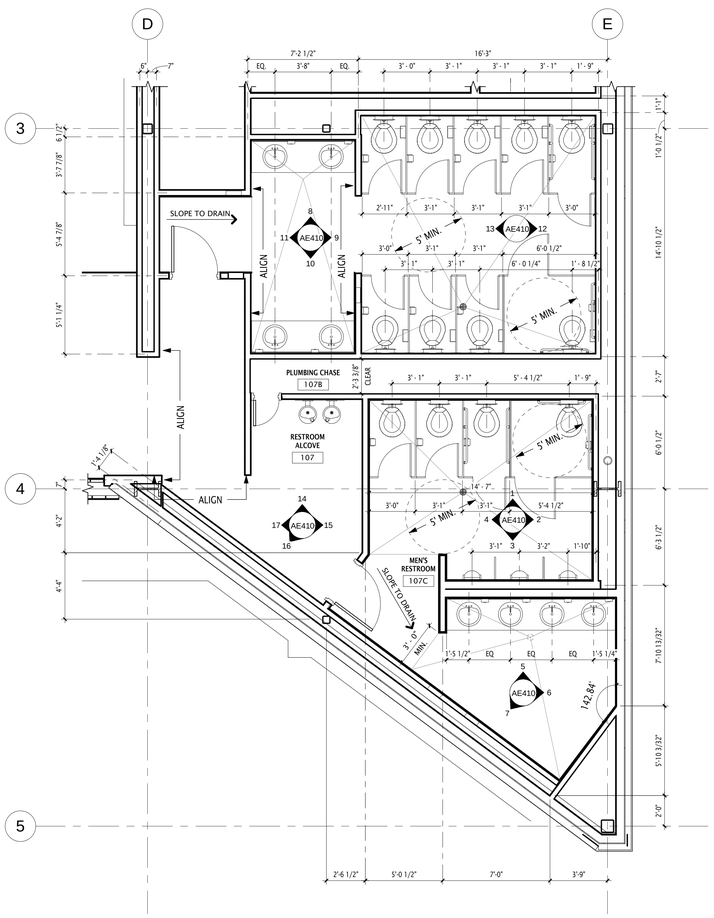
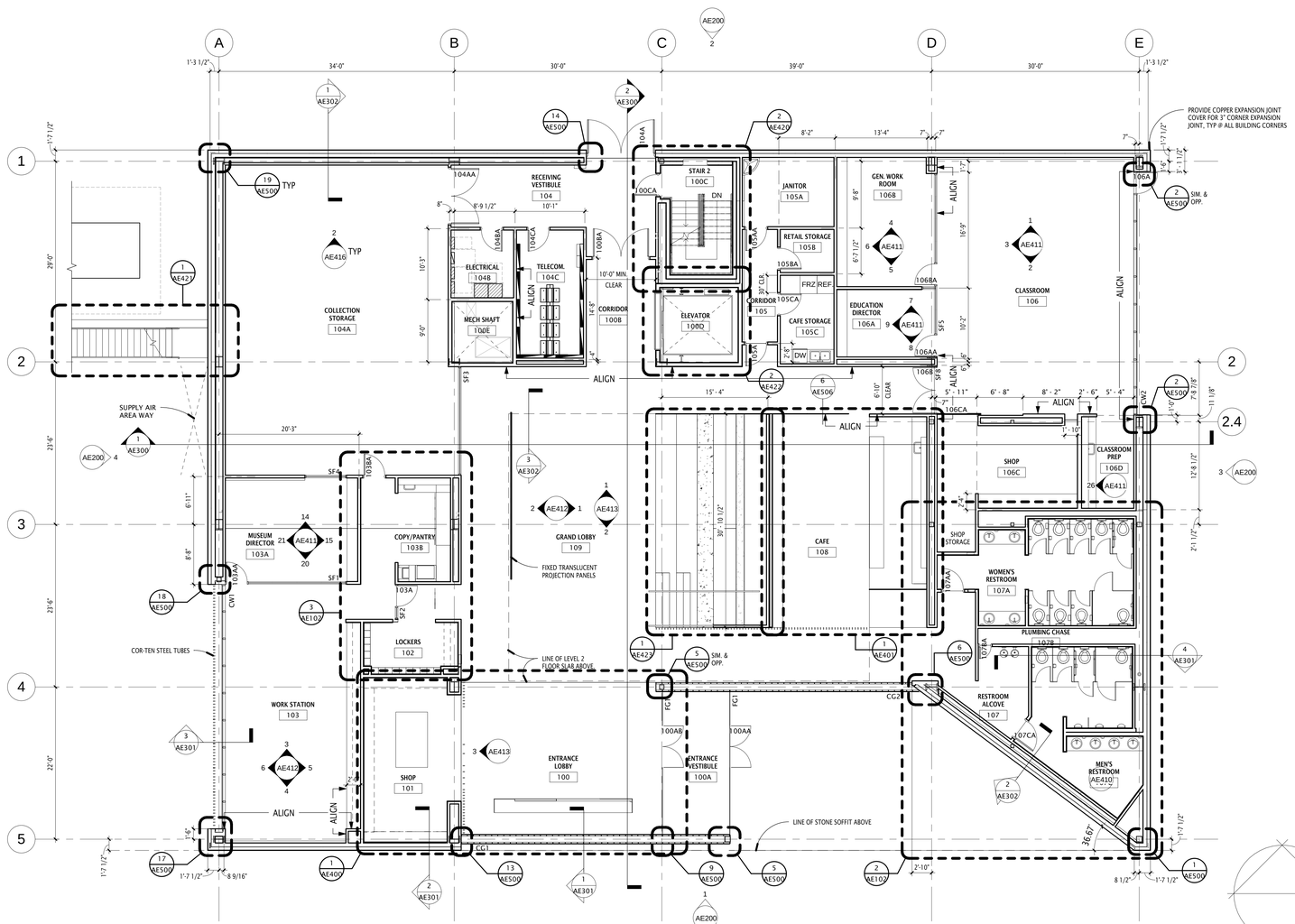


3 AE102 ENLARGED COPY/PANTRY & LOCKERS ROOM PLAN
1/4" = 1'-0"



2 AE102 ENLARGED LEVEL 1 RESTROOM PLAN
1/4" = 1'-0"



1 AE102 LEVEL 1 FLOOR PLAN
1/8" = 1'-0"

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FLOOR PLANS

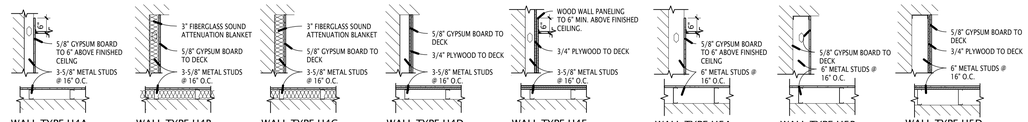
AE102

WALL TYPES LEGEND

NON-RATED METAL STUD WALLS

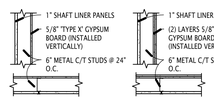
WALL TYPE D1A	NON-RATED		
WALL TYPE D1B	NON-RATED	STC 35	
WALL TYPE D1C	NON-RATED	STC 45	
WALL TYPE D1D	NON-RATED	STC 45	
WALL TYPE D1D	NON-RATED	STC 45	
WALL TYPE D2A	NON-RATED	STC 35	
WALL TYPE D2B	NON-RATED	STC 35	
WALL TYPE D2C	NON-RATED	STC 45	
WALL TYPE D2D	NON-RATED	STC 45	

METAL STUD W/ GYP. 1 SIDE



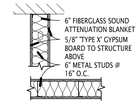
WALL TYPE H4A	NON-RATED
WALL TYPE H4B	NON-RATED
WALL TYPE H4C	NON-RATED
WALL TYPE H4D	NON-RATED
WALL TYPE H4E	NON-RATED
WALL TYPE H5A	NON-RATED
WALL TYPE H5B	NON-RATED
WALL TYPE H5D	NON-RATED

SHAFT WALL ASSEMBLIES



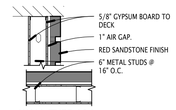
WALL TYPE J3A	1 HR. RATING	
WALL TYPE J3B	2 HR. RATING	

RATED METAL STUD WALLS



WALL TYPE E2C	2 HR. RATED	STC 40

STONE CLAD METAL STUD WALLS



WALL TYPE A1A	NON-RATED	STC -

FINISH KEY

WALL FLOOR BASE

WALLS		FLOOR	
P	PAINTED GYP. BOARD	CP	CARPET
PMT	PORCELAIN MOSAIC TILE	WD	WOOD PLANK
CG	STAINLESS STEEL CORNER GUARD	LN	LINOLEUM SHEET
G	GLAZING SYSTEM AS SCHEDULED	PMT	PORCELAIN MOSAIC TILE
WD	WOOD VENEER / PLANK	SC	SEALED CONCRETE
		SSC	SEALED/ STAINED CONCRETE
		ST	RED SANDSTONE PAVERS 18" X 5'-0"
		WD	WOOD PANELING
		——	FLOOR TRANSITION
BASE		**MISC.**	
VB	4" VINYL BASE	PL	PLASTIC LAMINATE
WB	FLUSH WOOD BASE	WT	MAGNETIC WHITE BOARD
PMB	PORCELAIN MOSAIC TILE BASE	BB	LINOLEUM BULLETIN BOARD
G	GLAZING SYSTEM AS SCHEDULED	SS	SOLID SURFACE/ QUARTZ COUNTERTOP
		WD	WOOD VENEER (MILLWORK)

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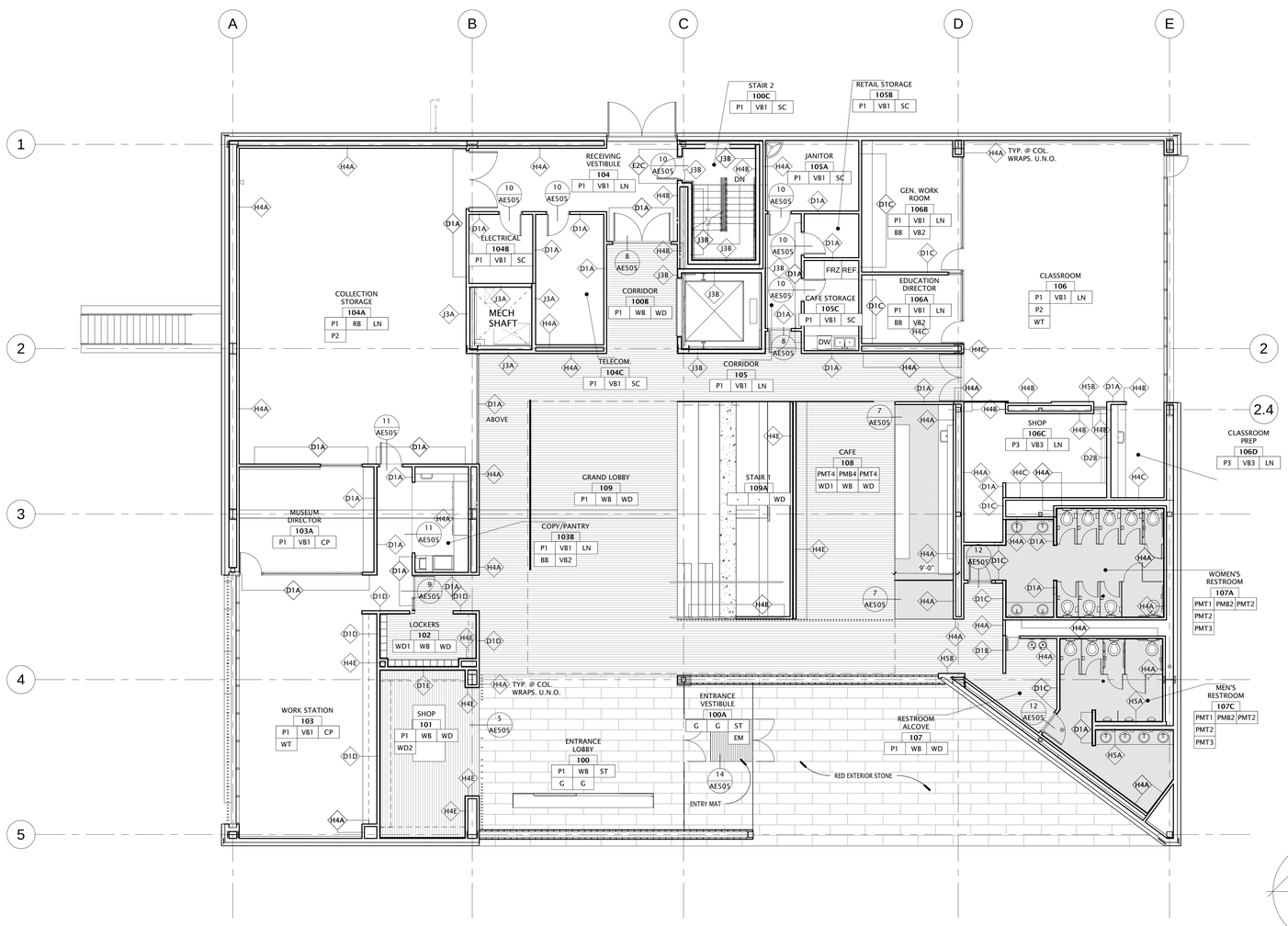

1 AE103 LEVEL 1 WALL TYPES AND FINISHES PLAN
1/8" = 1'-0"

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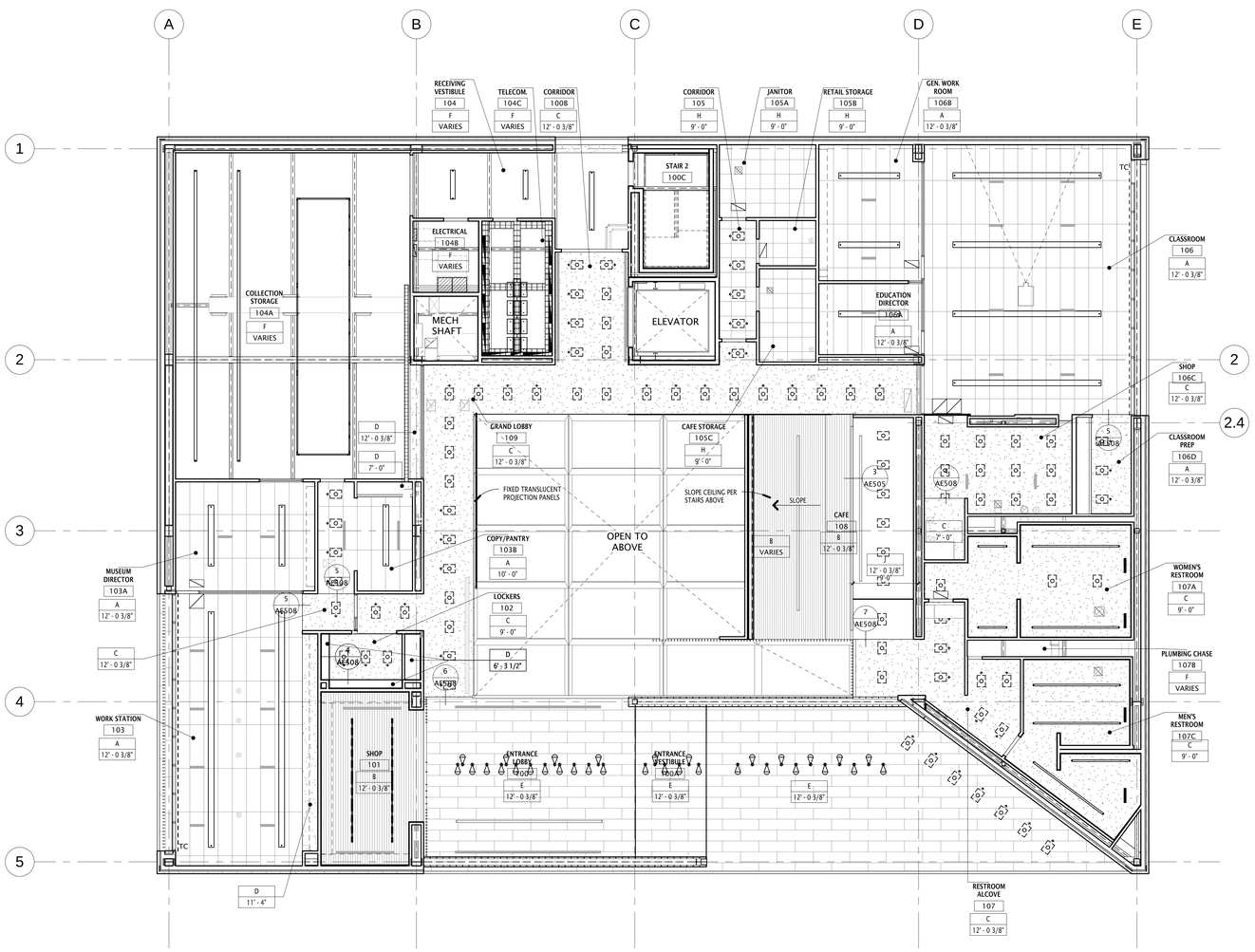
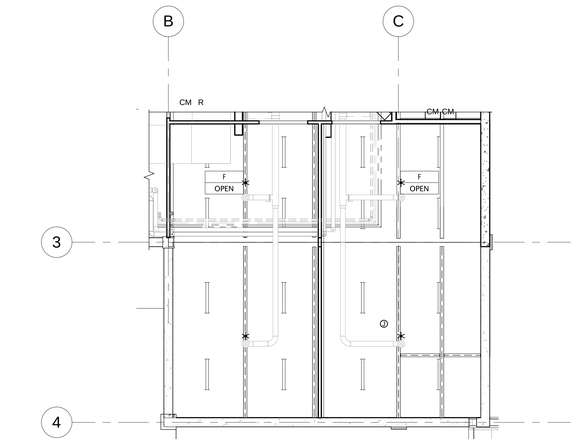
WALL TYPES AND FINISHES PLAN

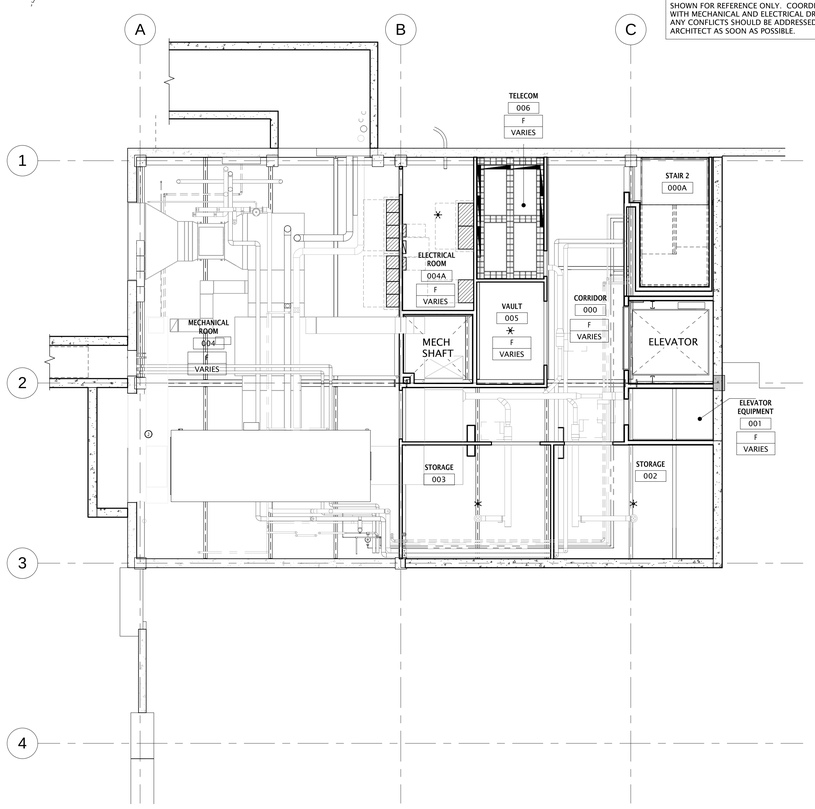
AE103



2 AE104 LEVEL 1 REFLECTED CEILING PLAN
1/8" = 1'-0"



3 AE104 BASEMENT LEVEL BID ALTERNATE 1 REFLECTED CEILING PLAN
1/8" = 1'-0"



1 AE104 BASEMENT LEVEL REFLECTED CEILING PLAN
1/8" = 1'-0"

PLAN LEGEND

	ROOM # / TYPE / ELEVATION
	A / 9'-0"

TYPE A	TECTUM CONCELLICO, 2'3 3/8" x 6' PANELS IN CONCEALED SUSPENED CEILIGN SYSTEM
TYPE B	CUSTOM WOOD PANELING
TYPE C	5/8" GYPSUM BOARD (PAINTED) METAL SUSPENSION SYSTEM
TYPE D	5/8" GYPSUM BOARD (PAINTED) OVER METAL FRAMING
TYPE E	18" X 60" STONE SOFFIT W/ RED SANDSTONE FACING ON INTERLOCKING CHANNEL SYSTEM OVER 5/8" SHEATHING & SUSPENDED METAL PANEL FRAMING SYSTEM
TYPE F	EXPOSED STRUCTURE
TYPE G	2HR GYP. BD. CEILING
TYPE H	2 X 2 LAY-IN ACOUSTICAL TILE IN SUSPENDED GRID.
TYPE J	TILE CEILING OVER SHEATHING AND METAL STUD FRAMING

WINDOW TREATMENT

TA	MOTORIZED SINGLE ROLLER SHADE
TB	MOTORISED DUAL ROLLER SHADES: (1) SHADE (1) BLACKOUT SHADE
TC	MANUAL DUAL ROLLER SHADES (1) SHADE (2) BLACKOUT SHADE

SYMBOL LEGEND

- LAY-IN LIGHT FIXTURE
- SUSPENDED OR SURFACE MOUNTED LINEAR LIGHT
- RECESSED LIGHT FIXTURE
- MECHANICAL DIFFUSER - SUPPLY
- MECHANICAL DIFFUSER - RETURN
- RECESSED SHADE AS SCHED.
- PROJECTOR

NOTE: MECHANICAL AND ELECTRICAL DATA SHOWN FOR REFERENCE ONLY. COORDINATE WITH MECHANICAL AND ELECTRICAL DRAWINGS. ANY CONFLICTS SHOULD BE ADDRESSED WITH ARCHITECT AS SOON AS POSSIBLE.

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REFLECTED CEILING PLANS

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AE104

PLAN NOTES	PLAN LEGEND
1. ALL WALL DIMENSIONS ARE GIVE TO CENTERLINE OF STUD OR FACE OF STUD. 2. ALL DOOR FRAMES TO BE LOCATED 4" MIN. FROM FINISHED FACED OF ADJACENT WALL UNLESS DIMENSIONED OTHERWISE. 3. ALL DOOR & WINDOW ASSEMBLY DIMENSIONS ARE GIVEN FROM CENTERLINE OF STUD TO EDGE OF ROUGH OPENING 5. SEE ENLARGED PLANS FOR FURTHER DIMENSIONS & DETAIL CALL OUTS. 6. ALL ANGLED WALL DIMENSIONS ARE GIVEN TO EDGE OF STUD. 7. ALL EXTERIOR WALL DIMENSIONS ARE GIVEN TO FINISHED FACE STONE.	FIRE EXTINGUISHER CABINET

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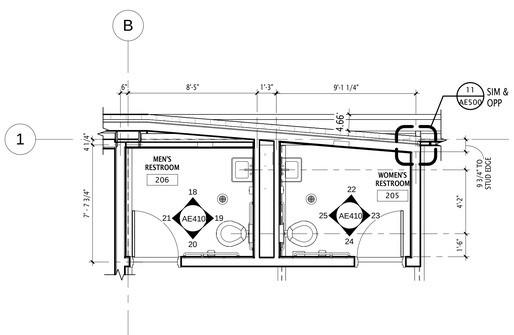
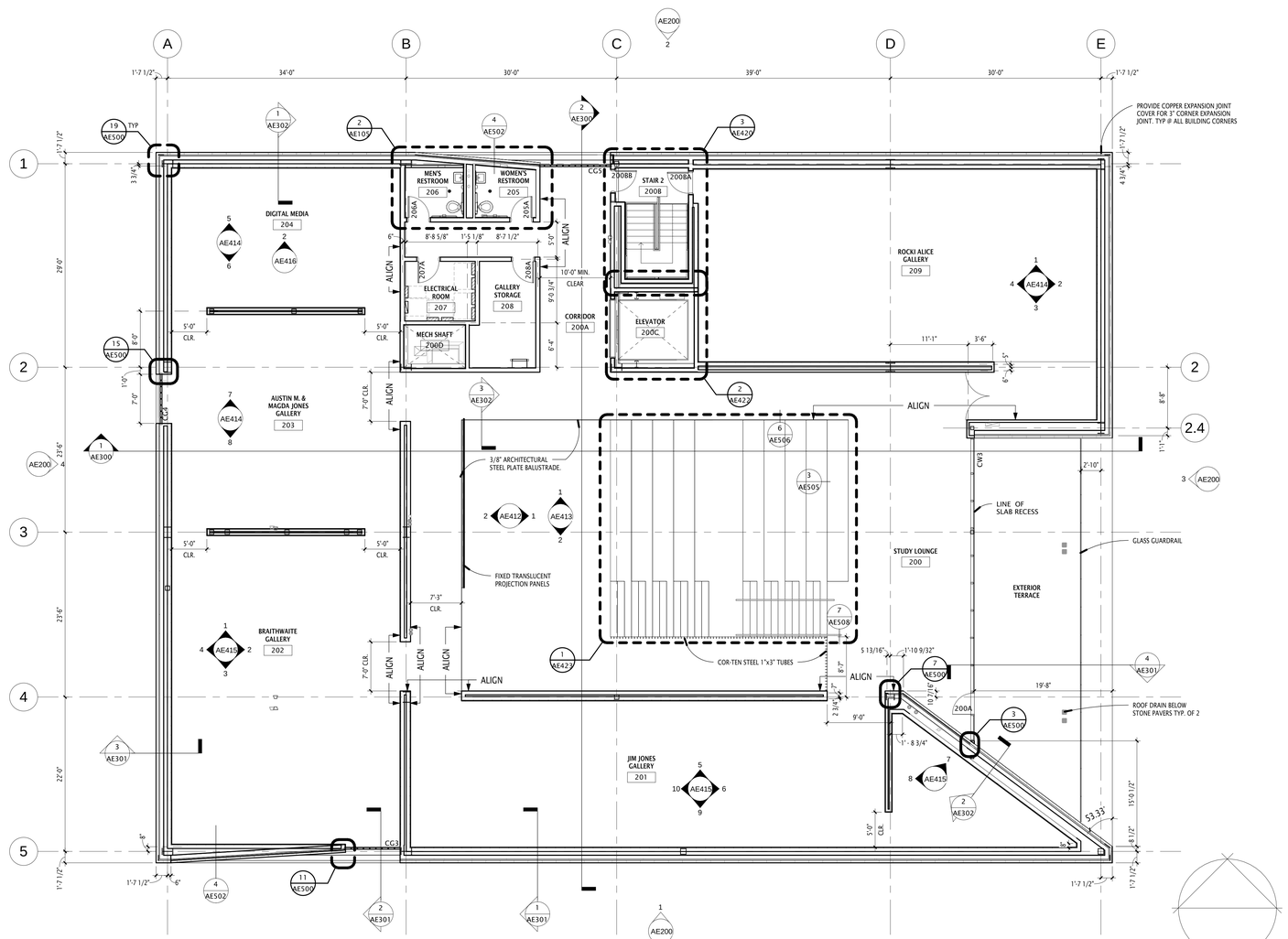


2 AE105 ENLARGED LEVEL 2 RESTROOM PLAN
1/4" = 1'-0"



1 AE105 LEVEL 2 FLOOR PLAN
1/8" = 1'-0"

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FLOOR PLANS

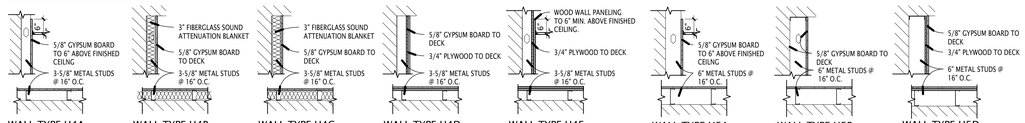
AE105

WALL TYPES LEGEND

NON-RATED METAL STUD WALLS

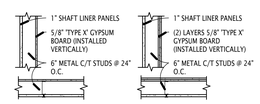
WALL TYPE D1A	NON-RATED	
WALL TYPE D1B	NON-RATED	STC 35
WALL TYPE D1C	NON-RATED	STC 45
WALL TYPE D1D	NON-RATED	STC 45
WALL TYPE D1D	NON-RATED	STC 45
WALL TYPE D2A	NON-RATED	STC 35
WALL TYPE D2B	NON-RATED	STC 35
WALL TYPE D2C	NON-RATED	STC 45
WALL TYPE D2D	NON-RATED	STC 45

METAL STUD W/ GYP. 1 SIDE



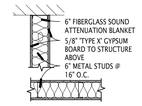
WALL TYPE H4A	NON-RATED
WALL TYPE H4B	NON-RATED
WALL TYPE H4C	NON-RATED
WALL TYPE H4D	NON-RATED
WALL TYPE H4E	NON-RATED
WALL TYPE H5A	NON-RATED
WALL TYPE H5B	NON-RATED
WALL TYPE H5D	NON-RATED

SHAFT WALL ASSEMBLIES



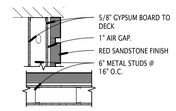
WALL TYPE J3A	1 HR. RATING	
WALL TYPE J3B	2 HR. RATING	

RATED METAL STUD WALLS



WALL TYPE E2C	2 HR. RATED	STC 40

STONE CLAD METAL STUD WALLS



WALL TYPE A1A	NON-RATED	STC -

FINISH KEY

WALL FLOOR BASE

WALLS		FLOOR	
P	PAINTED GYP. BOARD	CP	CARPET
PMT	PORCELAIN MOSAIC TILE	WD	WOOD PLANK
CG	STAINLESS STEEL CORNER GUARD	LN	LINOLEUM SHEET
G	GLAZING SYSTEM AS SCHEDULED	PMT	PORCELAIN MOSAIC TILE
WD	WOOD VENEER / PLANK	SC	SEALED CONCRETE
		SSC	SEALED/ STAINED CONCRETE
		ST	RED SANDSTONE PAVERS 18" X 5'-0"
		WD	WOOD PANELING
		____	FLOOR TRANSITION
BASE		**MISC.**	
VB	4" VINYL BASE	PL	PLASTIC LAMINATE
WB	FLUSH WOOD BASE	WT	MAGNETIC WHITE BOARD
PMB	PORCELAIN MOSAIC TILE BASE	BB	LINOLEUM BULLETIN BOARD
G	GLAZING SYSTEM AS SCHEDULED	SS	SOLID SURFACE/ QUARTZ COUNTERTOP
		WD	WOOD VENEER (MILLWORK)

NOTES:

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4. WHERE METAL STUD FURRING OCCURS ADJACENT TO A CMU OR CONCRETE WALL, A COMPLETE SEPERATION BETWEEN WALLS IS REQUIRED. DO NOT ATTACH STUD WALL, FINISH SIDE ELECTRICAL BOXES, CONDUIT, ETC. TO CONCRETE / CMU WALL.
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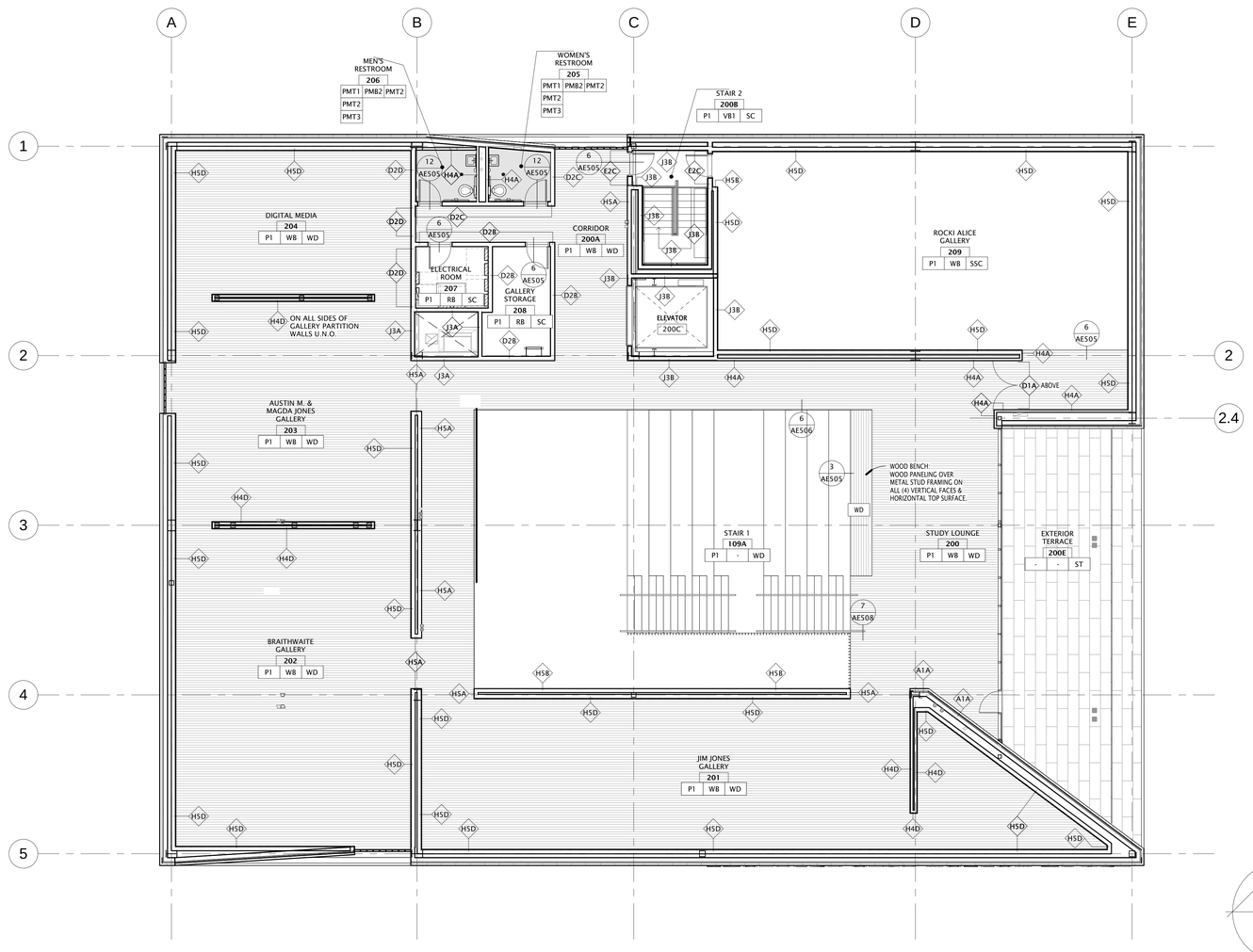

1 / AE106 LEVEL 2 WALL TYPES AND FINISHES PLAN
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SOUTHERN UTAH MUSEUM OF ART

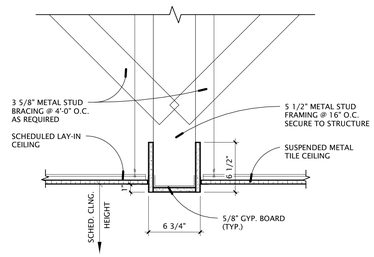
351 WEST UNIVERSITY BOULEVARD
CEDER CITY, UT 84720

Division of Facilities Construction Management, Southern Utah University

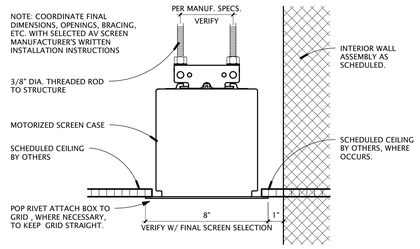
DRAWN BY:	Author
CHECKED BY:	Checker
OWNER PROJECT NO.:	
GSBS PROJECT NO.:	2010.084.00
ISSUED DATE:	05/16/2012

WALL TYPES & FINISHES PLANS

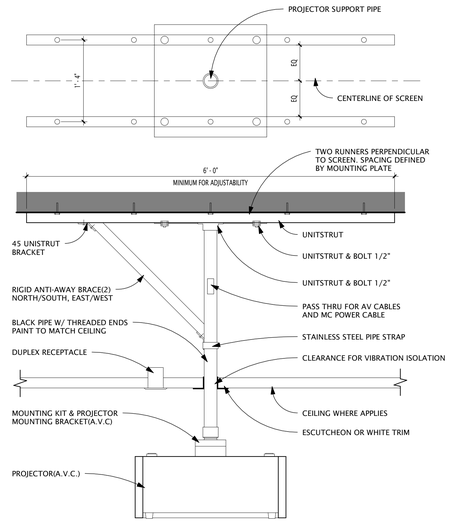
AE106



6 AE107 SOFFIT DETAIL 02
1 1/2" = 1'-0"



3 AE107 AV PROJECTOR SCREEN
3" = 1'-0"



NOTE: 80" MIN, CLEARANCE TO BOTTOM OF PROJECTOR IF IN THE PATH OF TRAVEL

2 AE107 PROJECTOR CEILING MOUNT DTL
1" = 1'-0"

PLAN LEGEND

ROOM #	
TYPE	A
ELEVATION	9'-0"

TYPE A	TECTUM CONCELLICO, 23 3/8" x 6' PANELS IN CONCEALED SUSPENDED CEILIGN SYSTEM
TYPE B	CUSTOM WOOD PANELING
TYPE C	5/8" GYPSUM BOARD (PAINTED) METAL SUSPENSION SYSTEM
TYPE D	5/8" GYPSUM BOARD (PAINTED) OVER METAL FRAMING
TYPE E	18" X 60" STONE SOFFIT W/ RED SANDSTONE FACING ON INTERLOCKING CHANNEL SYSTEM OVER 5/8" SHEATHING & SUSPENDED METAL PANEL FRAMING SYSTEM
TYPE F	EXPOSED STRUCTURE
TYPE G	2HR GYP. BD. CEILING
TYPE H	2 X 2 LAY-IN ACOUSTICAL TILE IN SUSPENDED GRID.
TYPE J	TILE CEILING OVER SHEATHING AND METAL STUD FRAMING

WINDOW TREATMENT

TA	MOTORIZED SINGLE ROLLER SHADE
TB	MOTORISED DUAL ROLLER SHADES: (1) SHADE (1) BLACKOUT SHADE
TC	MANUAL DUAL ROLLER SHADES (1) SHADE (2) BLACKOUT SHADE

SYMBOL LEGEND

- LAY-IN LIGHT FIXTURE
- SUSPENDED OR SURFACE MOUNTED LINEAR LIGHT
- RECESSED LIGHT FIXTURE
- MECHANICAL DIFFUSER - SUPPLY
- MECHANICAL DIFFUSER - RETURN
- RECESSED SHADE AS SCHED.
- PROJECTOR

NOTE: MECHANICAL AND ELECTRICAL DATA SHOWN FOR REFERENCE ONLY . COORDINATE WITH MECHANICAL AND ELECTRICAL DRAWINGS. ANY CONFLICTS SHOULD BE ADDRESSED WITH ARCHITECT AS SOON AS POSSIBLE.

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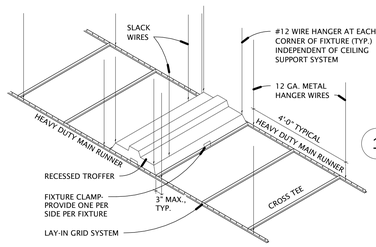
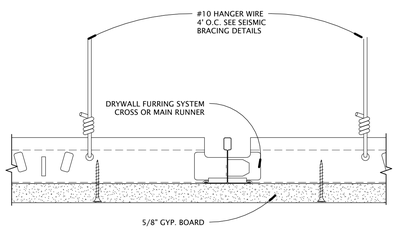
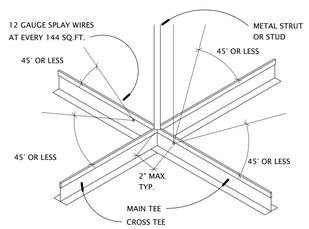
REVISIONS:



5 AE107 FIXTURE SUPPORT
1/64" = 1'-0"



8 AE107 SUSPENDED GYP. BD.
6" = 1'-0"



NOTE 1- ALL SPLAY WIRES TO BE IN LINE WITH ATTACHED COMPONENT

NOTE 2- ALL SPLAY WIRES TO BE TAUT AND TIED BOTH ENDS WITH MINIMUM OF THREE TURNS IN 1" OF RUN.

NOTE 3- COMPLY WITH IBC 2006

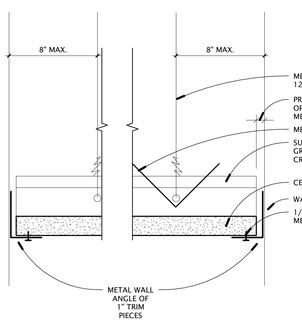
NOTE 4- SPLAY WIRES SHALL ATTACH TO STRUCTURAL GIRDER OR JOIST ONLY, DO NOT ATTACH TO ROOF DECK.

NOTE 5- METAL STRUT FASTENED TO THE MAIN RUNNER SHALL BE EXTENDED TO AND FASTENED TO THE STRUCTURAL MEMBERS SUPPORTING THE ROOF OR FLOOR ABOVE. THE STRUT SHALL BE ADEQUATE TO RESIST THE VERTICAL COMPONENT INDUCED BY THE BRACING WIRES.

NOTE 6- ALL LIGHT FIXTURES SHALL BE POSITIVELY ATTACHED TO THE SUSPENDED CEILING SYSTEM. WHEN INTERMEDIATE SYSTEMS ARE USED, ATTACH NO. 12 GAGE HANGERS TO THE GRID MEMBERS WITHIN 3" OF EACH CORNER OF EACH FIXTURE. LIGHT FIXTURES WEIGHING LESS THAN 56 LBS. SHALL HAVE TWO NO. 12 GAGE HANGERS CONNECTED FROM THE FIXTURE HOUSING TO THE STRUCTURE ABOVE. COMPLY WITH IBC 2006

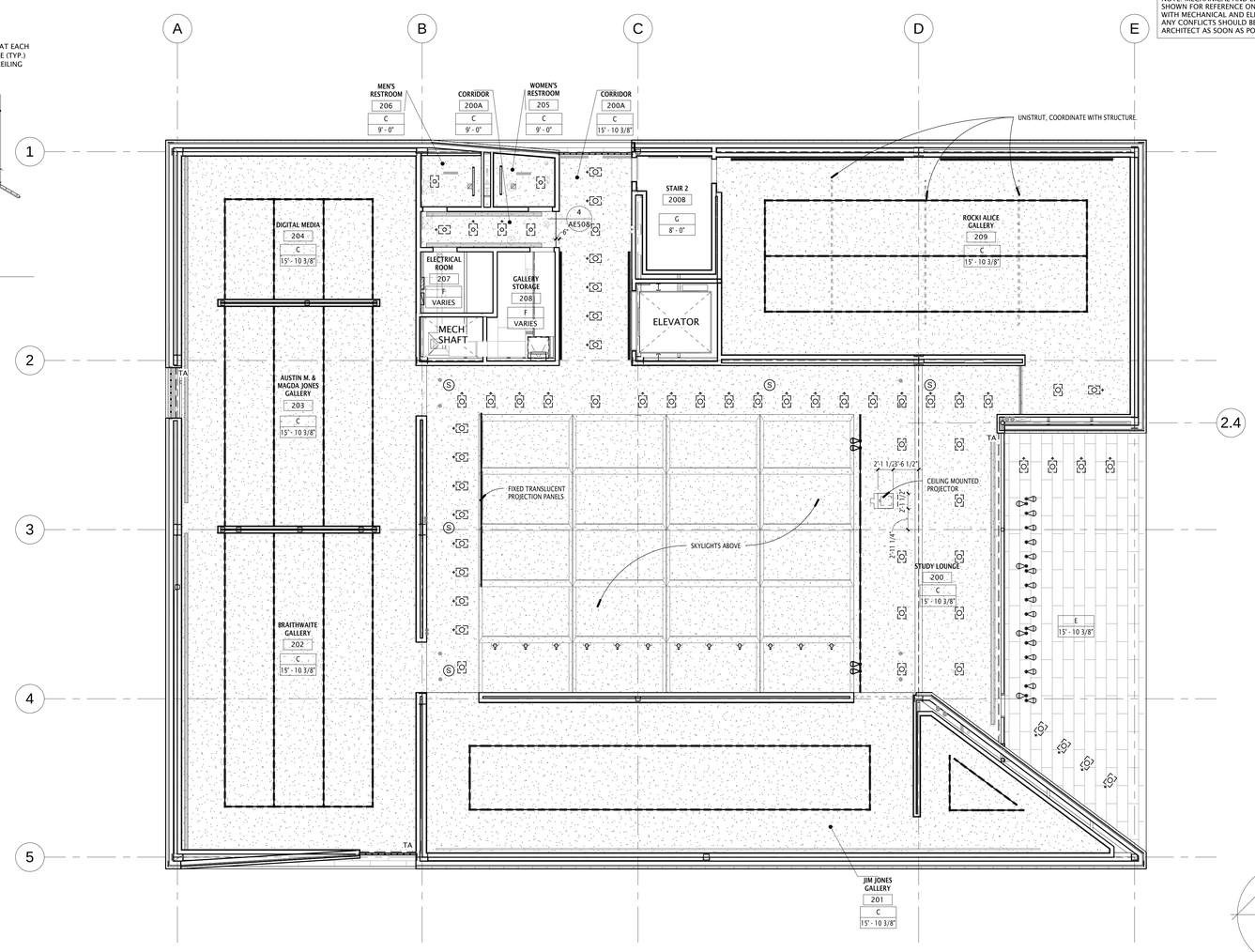
NOTE 7- ALL LIGHT FIXTURES SHALL BE POSITIVELY ATTACHED 20 LBS. SHALL BE POSITIVELY ATTACHED TO THE CEILING SUSPENSION MAIN RUNNERS. TERMINALS OR SERVICES WEIGHING 20 LBS., BUT NOT MORE THAT 56 LBS., SHALL IN ADDITION HAVE TWO NO. 12 GAGE HANGERS CONNECTED TO THE CEILING SYSTEM HANGERS OR TO THE STRUCTURE ABOVE. TERMINALS OR SERVICES WEIGHING MORE THAN 56 LBS. SHALL BE SUPPORTED DIRECTLY FROM THE STRUCTURE ABOVE BY APPROVED HANGERS. COMPLY WITH IBC 2006

NOTE 8- ALL GRID SYSTEM IN SEISMIC ZONE D OR GREATER ARE REQUIRED TO BE HEAVY DUTY. REFERENCE REQUIREMENTS TO ASCE 7 REQUIREMENTS.



7 AE107 SEISMIC EDGE DETAIL
6" = 1'-0"

4 AE107 SEISMIC BRACING DETAIL TYP.
1 1/2" = 1'-0"



1 AE107 LEVEL 2 REFLECTED CEILING PLAN
1/8" = 1'-0"

NORTH

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REFLECTED CEILING PLAN & DETAILS

AE107

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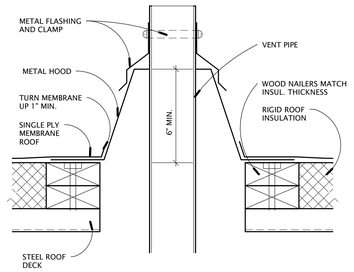
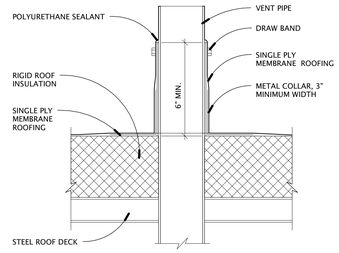
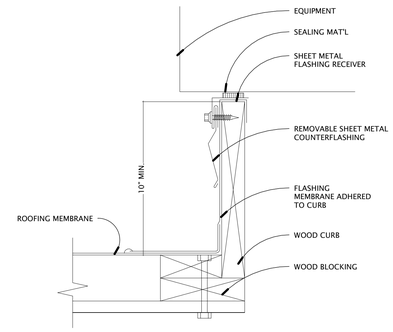


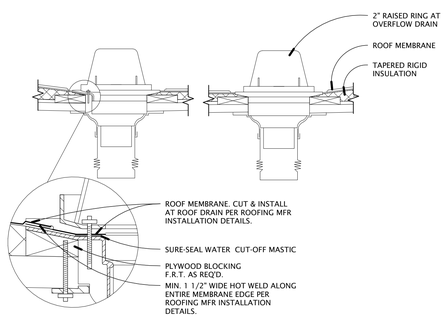
4 / AE108 WARM PIPE VENT DETAIL
3" = 1'-0"



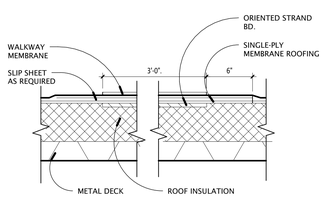
3 / AE108 PENETRATION DETAIL
3" = 1'-0"



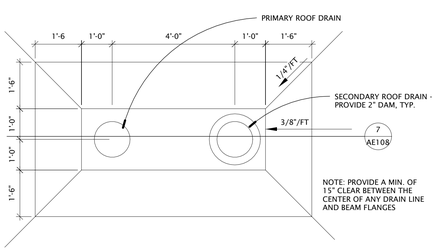
2 / AE108 EQUIPMENT CURB DETAIL
3" = 1'-0"



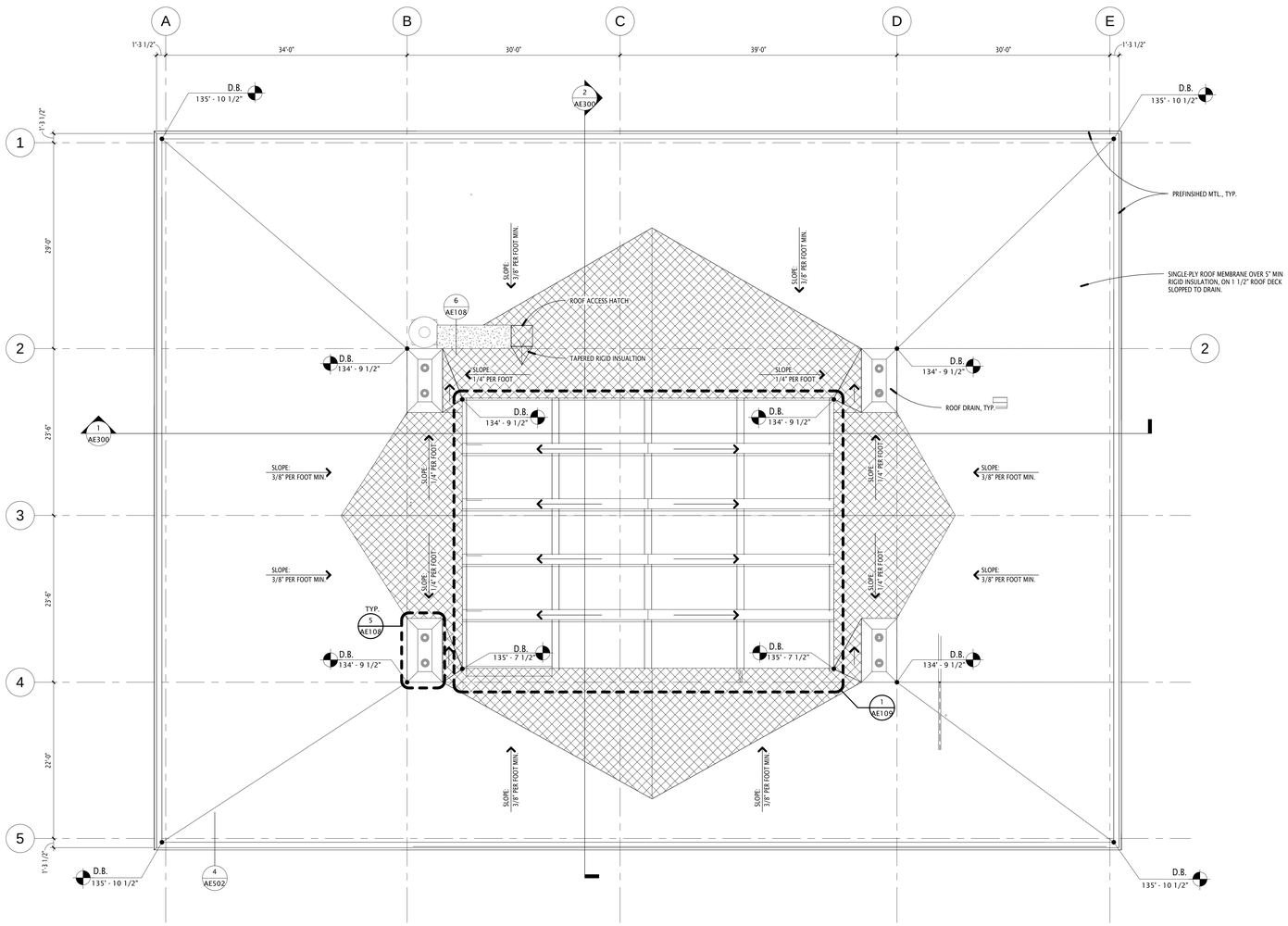
7 / AE108 ROOF DRAIN SECTION
1" = 1'-0"



6 / AE108 ROOF WALKWAY PAD
1 1/2" = 1'-0"



5 / AE108 ROOF DRAIN PLAN
1/2" = 1'-0"



1 / AE108 ROOF PLAN
1/8" = 1'-0"

NORTH

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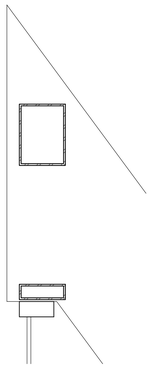
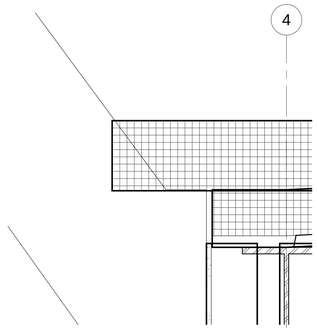
ROOF PLAN AND DETAILS

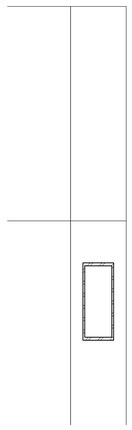
AE108



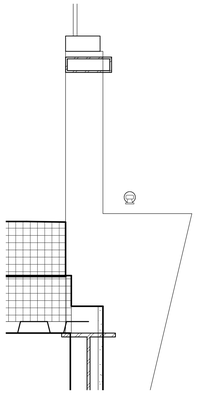
13 AE109 SKYLIGHT HEAD DTL NS
1 1/2" = 1'-0"



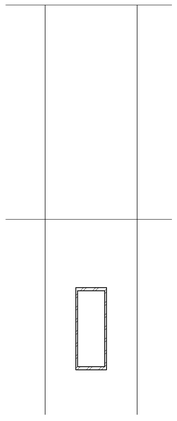
10 AE109 ROOF EDGE/SKYLIGHT DTL NS2
1 1/2" = 1'-0"



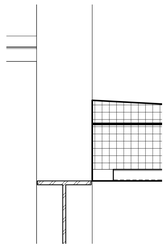
7 AE109 SKYLIGHT HEAD DTL EW 2
1 1/2" = 1'-0"



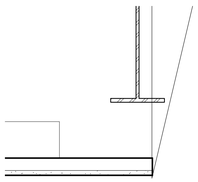
12 AE109 ROOF EDGE/SKYLIGHT DTL NS
1 1/2" = 1'-0"



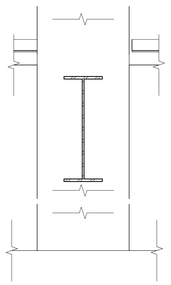
9 AE109 SKYLIGHT HEAD DTL EW 1
1 1/2" = 1'-0"



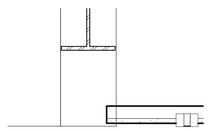
6 AE109 ROOF EDGE/SKYLIGHT DTL EW
1 1/2" = 1'-0"



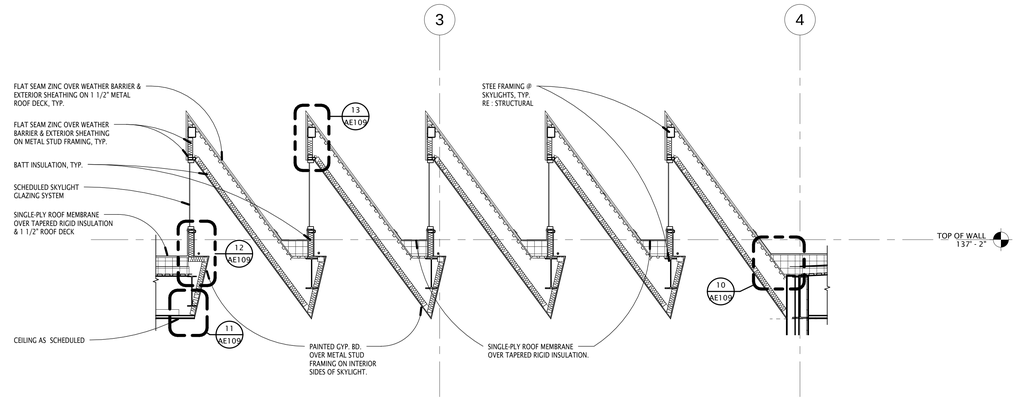
11 AE109 CEILING/SKYLIGHT DTL NS
1 1/2" = 1'-0"



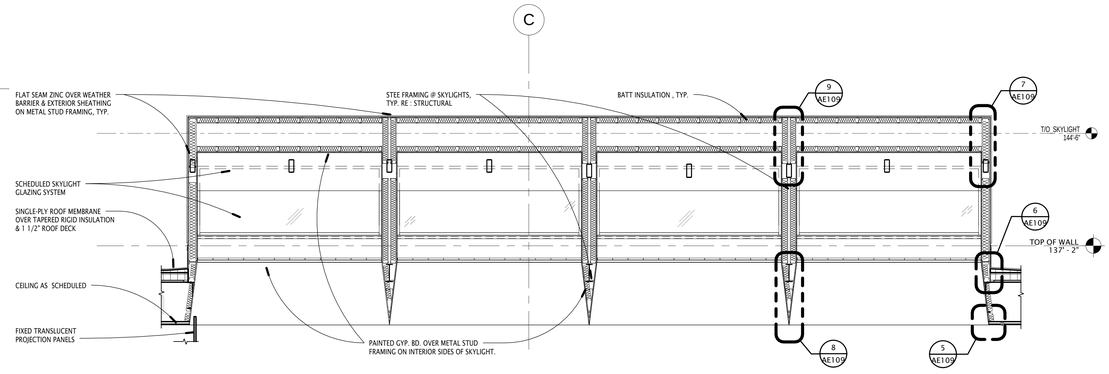
8 AE109 INTERIOR SKYLIGHT WALL DTL
1 1/2" = 1'-0"



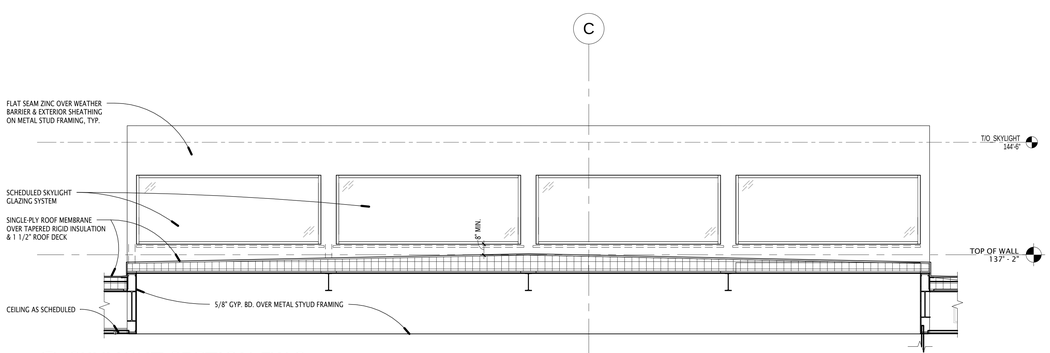
5 AE109 CEILING/SKYLIGHT DTL
1 1/2" = 1'-0"



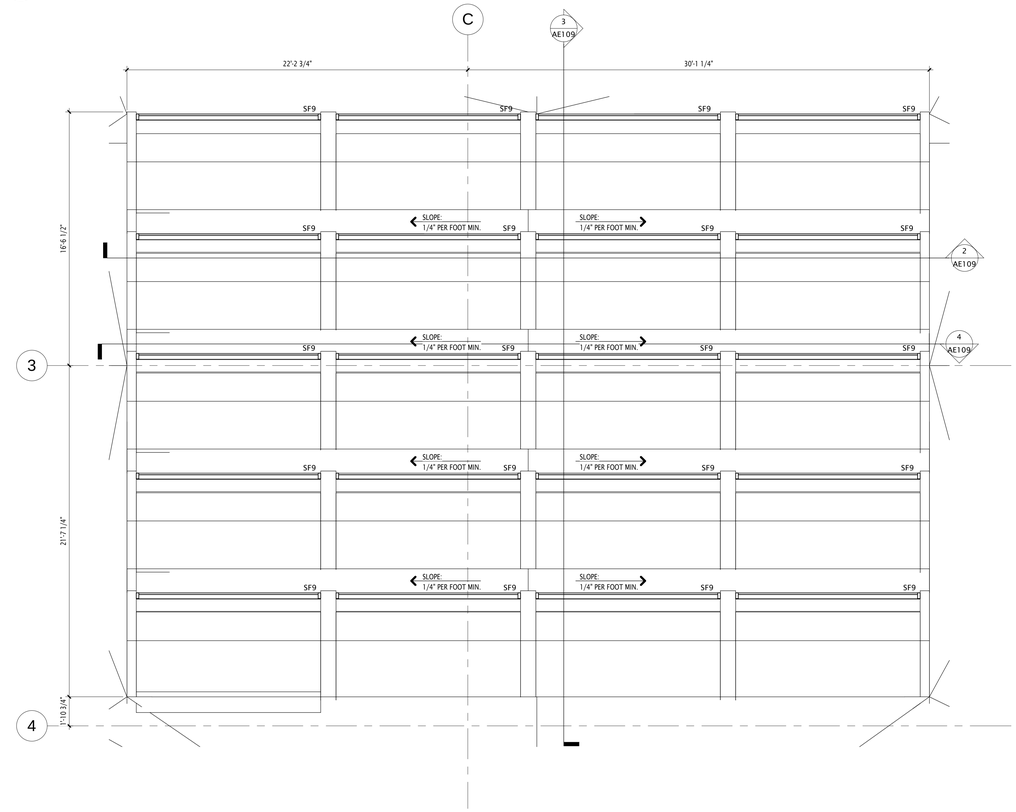
3 AE109 SKYLIGHT SECTION NS
1/4" = 1'-0"



2 AE109 SKYLIGHT SECTION EW-1
1/4" = 1'-0"



4 AE109 SKYLIGHT SECTION EW-2
1/4" = 1'-0"



1 AE109 ENLARGED SKYLIGHT PLAN
1/4" = 1'-0"

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SKYLIGHT PLAN, SECTIONS & DETAILS

AE109

FINISH SCHEDULE

Number	Name	Wall Finish	Wall Finish 2	Wall Finish 3	Base Finish	Base Finish 2	Floor Finish	Floor Finish 2
000	CORRIDOR	P			RB		SC	
000A	STAIR 2	P			RB		SC	
000B	ELEVATOR							
000C	MECH SHAFT							
001	ELEVATOR EQUIPMENT	P			RB		SC	
002	STORAGE	P			RB		SC	
003	STORAGE	P			RB		SC	
004	MECHANICAL ROOM	P			RB		SC	
004A	ELECTRICAL ROOM	P			RB		SC	
005	VAULT	P			RB		SC	
006	TELECOM	P			RB		SC	
100	ENTRANCE LOBBY	P1	G		WB	G	ST	
100A	ENTRANCE VESTIBULE	G			G		ST	EM
100B	CORRIDOR	P1			WB		WD	
100C	STAIR 2	P1			VB1		SC	
100D	ELEVATOR							
100E	MECH SHAFT							
101	SHOP	P1	WD2		WB		WD	
102	LOCKERS	WD1			WB		WD	
103	WORK STATION	P1	WT		VB1		CP	
103A	MUSEUM DIRECTOR	P1			VB1		CP	
103B	COPY/PANTRY	P1	BB		VB1	VB2	LN	
104	RECEIVING VESTIBULE	P1			VB1		LN	
104A	COLLECTION STORAGE	P1	P2		RB		LN	
104B	ELECTRICAL	P1			VB1		SC	
104C	TELECOM.	P1			VB1		SC	
105	CORRIDOR	P1			VB1		LN	
105A	JANITOR	P1			VB1		SC	
105B	RETAIL STORAGE	P1			VB1		SC	

FINISH SCHEDULE

Number	Name	Wall Finish	Wall Finish 2	Wall Finish 3	Base Finish	Base Finish 2	Floor Finish	Floor Finish 2
105C	CAFE STORAGE	P1			VB1		SC	
106	CLASSROOM	P1	P2	WT	VB1		LN	
106A	EDUCATION DIRECTOR	P1	BB		VB1	VB2	LN	
106B	GEN. WORK ROOM	P1	BB		VB1	VB2	LN	
106C	SHOP	P3			VB3		LN	
106D	CLASSROOM PREP	P3			VB3		LN	
107	RESTROOM ALCOVE	P1			WB		WD	
107A	WOMEN'S RESTROOM	PMT1	PMT2	PMT3	PMB2		PMT2	
107B	PLUMBING CHASE							
107C	MEN'S RESTROOM	PMT1	PMT2	PMT3	PMB2		PMT2	
108	CAFE	PMT4	WD1		PMB4	WB	PMT4	WD
109	GRAND LOBBY	P1			WB		WD	
109A	STAIR 1	-			-		WD	
109A	STAIR 1	P1			-		WD	
200	STUDY LOUNGE	P1			WB		WD	
200A	CORRIDOR	P1			WB		WD	
200B	STAIR 2	P1			VB1		SC	
200C	ELEVATOR							
200D	MECH SHAFT							
201	JIM JONES GALLERY	P1			WB		WD	
202	BRAITHWAITE GALLERY	P1			WB		WD	
203	AUSTIN M. & MAGDA JONES GALLERY	P1			WB		WD	
204	DIGITAL MEDIA	P1			WB		WD	
205	WOMEN'S RESTROOM	PMT1	PMT2	PMT3	PMB2		PMT2	
206	MEN'S RESTROOM	PMT1	PMT2	PMT3	PMB2		PMT2	
207	ELECTRICAL ROOM	P1			RB		SC	
208	GALLERY STORAGE	P1			RB		SC	
209	ROCKI ALICE GALLERY	P1	P1		WB		SSC	

FINISHES

Finish Location Sort	Finish Location	Sort Order	Finish Type	WT	Manufacturer	Product Name/ Number	Color/ Finish	Size	Comments
WALLS									
PAINT									
1	WALLS	1	PAINT	P1	Benjamin Moore	Super Spec Green Paint	CC-20 Decorator White / Eggshell	n/a	General Paint - Gyp. Board Walls
1	WALLS	1	PAINT	P2	Benjamin Moore	Super Spec Green Paint	2121-40 Silver Half Dollar / Eggshell	n/a	Exposed Ceiling - Collections Storage
1	WALLS	1	PAINT	P3	Benjamin Moore	Eco Spec Green Paint	2121-40 Silver Half Dollar / Semi Gloss	n/a	Shop, Wet Prep (Classroom)
TILE									
1	WALLS	2	TILE	PMT1	Daltile	Colorbody Porcelain	D014 - Desert Gray	1" x 1" Penny Round	Restroom Wall Tile - Field
1	WALLS	2	TILE	PMT2	Daltile	Colorbody Porcelain	D617 - Arctic White	1" x 1" Penny Round	Restroom & Cafe Wall / Flooring Tile - Field
1	WALLS	2	TILE	PMT3	Daltile	Colorbody Porcelain	D182 - Suede Gray	1" x 1" Penny Round	Restroom Wall Tile - Field
GROUT									
1	WALLS	3	GROUT	CT1	Mapei	Unsanded	00 White	n/a	
WALLCOVERING									
1	WALLS	4	WALLCOVERING	WT	Koroseal	Magnetic White Board	Walltalkers - Magrite II	See Elevations	Classroom, Work Station
1	WALLS	4	WALLCOVERING	BB	Forbo	Linoleum Bulletin Board	Marmoleum Piano - 3613 Almost Darkness	See Elevations	Gen. Workroom, Educations Director, Copy/Pantry
WOOD									
1	WALLS	5	WOOD	WD1		White oak veneer	Stained and sealed to match white oak floor	n/a	Cafe, Stairs
1	WALLS	5	WOOD	WD2		White oak planks	Rough-cut toungue and groove	4" / 8"	Retail shop, Stairs
FLOOR									
ENTRY MAT									
2	FLOOR		ENTRY MAT	EM					Vestibule
SANDSTONE									
2	FLOOR		SANDSTONE	ST		Red sandstone pavers	Honed, sealed	Varies	Entrance lobby, Vestibule
CARPET									
2	FLOOR	1	CARPET	CP	Prestige Mills, Inc	Tretford	620 Charcoal	6'-7' Roll	Admin Suite
WOOD FLOOR									

FINISHES

Finish Location Sort	Finish Location	Sort Order	Finish Type	WT	Manufacturer	Product Name/ Number	Color/ Finish	Size	Comments
2	FLOOR	2	WOOD FLOOR	WD		White Oak, 8"-wide, quartersawn plank (nominally 7'-9" lengths, staggered pattern as per plan)	White Lye + Bona Naturale	8" wide, 7-9" lengths	
TILE									
2	FLOOR	3	TILE	PMT2	Daltile	Colorbody Porcelain	D617 - Arctic White	1" x 1" Penny Round	Restroom & Cafe Floors
LINOLEUM									
2	FLOOR	6	LINOLEUM	LN	Forbo	Linoleum Sheet	3613 Almost Darkness	n/a	Classroom, Shop, Wet Prep, Admin Copy/Pantry
STAINED CONCRETE									
2	FLOOR	7	STAINED CONCRETE	ST1	Scofield			n/a	Rocki Alice Gallery
SEALED CONCRETE									
2	FLOOR	8	SEALED CONCRETE	SC				n/a	
BASE									
VINYL BASE & ACCESSORIES									
3	BASE	1	VINYL BASE & ACCESSORIES	VB1	Flexco	4" Vinyl Base	046 True White VCB-046	4"	Base on white walls
3	BASE	1	VINYL BASE & ACCESSORIES	VB2	Flexco	4" Vinyl Base	01 Black Dahlia VCB-01	4"	Base on linoleum bulliten board walls
3	BASE	1	VINYL BASE & ACCESSORIES	VB3	Flexco	4" Vinyl Base	091 Titanium VCB-091	4"	Base on grey walls in Shop and Wet Prep
TILE BASE									
3	BASE	2	TILE BASE	PMB2	Daltile	Colorbody Porcelain	D617 - Arctic White	1" x 1" Penny Round	Restrooms & Cafe
WOOD BASE									
3	BASE	3	WOOD BASE	WB			Match wood floor	4"	
MILLWORK									
PLASTIC LAMINATE									
4	MILLWORK	1	PLASTIC LAMINATE	PL1	Formica	Standard Laminate	837-58 Graphite, Matte	n/a	Admin Copy / Pantry
4	MILLWORK	1	PLASTIC LAMINATE	PL2	Formica	Standard laminate	923-58 Surf, Matte	n/a	Upper Cabinetry in Admin Copy/Pantry
4	MILLWORK	1	PLASTIC LAMINATE	PL3	Formica	Color Core 2	927 Folkstone - See elevations for finish	n/a	Counters, backsplash, cabinetry (Classroom Wet Prep)
4	MILLWORK	1	PLASTIC LAMINATE	PL4	Formica	Color Core 2	933 - Mission White - See elevations for finish	n/a	Work Counters (Admin, Education Director, General Work Room)
4	MILLWORK	1	PLASTIC LAMINATE	PL5	Formica	Color Core 2	909 - Black - See elevations for finish	n/a	Front Desk
SOLID SURFACE COUNTERTOPS									
4	MILLWORK	2	SOLID SURFACE COUNTERTOPS	SS1	Corian		Glacier White	n/a	Restrooms
4	MILLWORK	2	SOLID SURFACE COUNTERTOPS	SS2	Corian		Nocturne	n/a	Front Desk

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REVISIONS:

SOUTHERN UTAH MUSEUM OF ART

351 WEST UNIVERSITY BOULEVARD
CEDER CITY, UT 84720

Division of Facilities Construction Management, Southern Utah University

DRAWN BY: Author
CHECKED BY: Checker
OWNER PROJECT NO.:
GSBS PROJECT NO.: 2010.084.00
ISSUED DATE: 05/16/2012

INTERIOR FINISHES AND SCHEDULE

AE110

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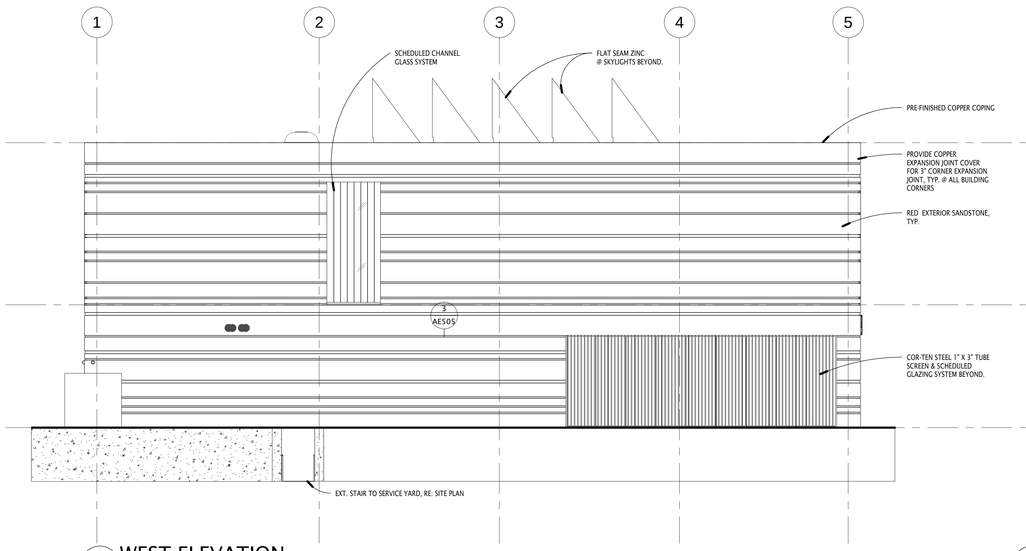
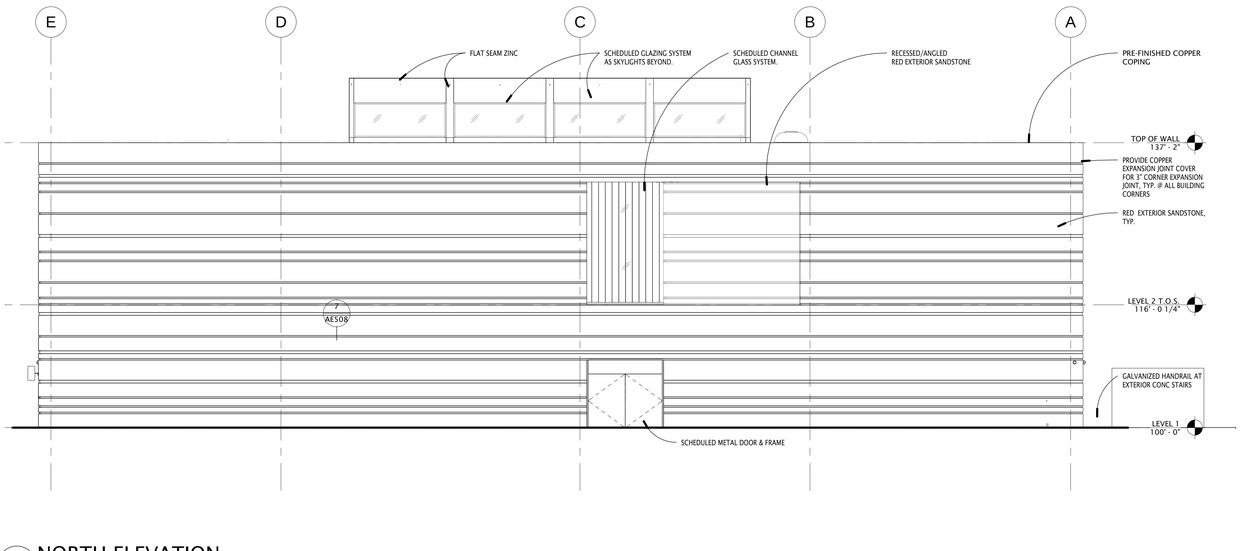
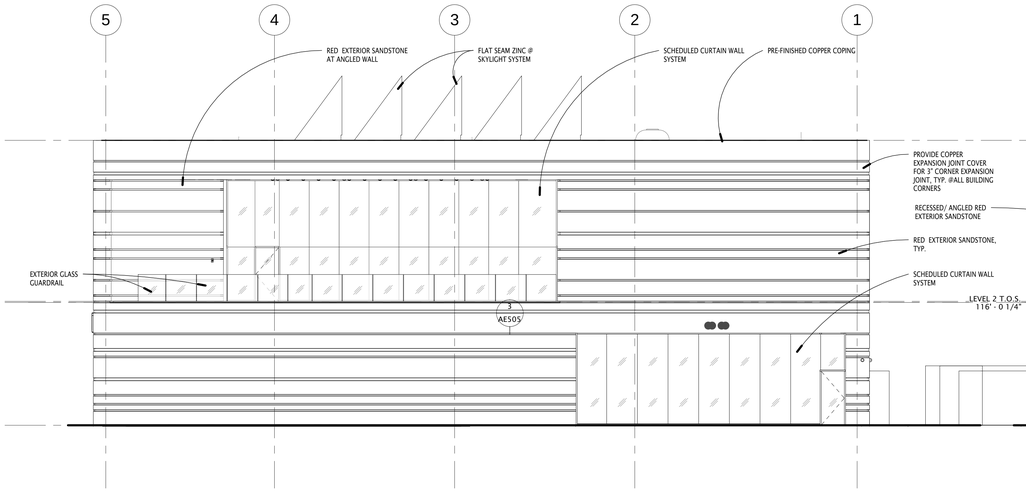


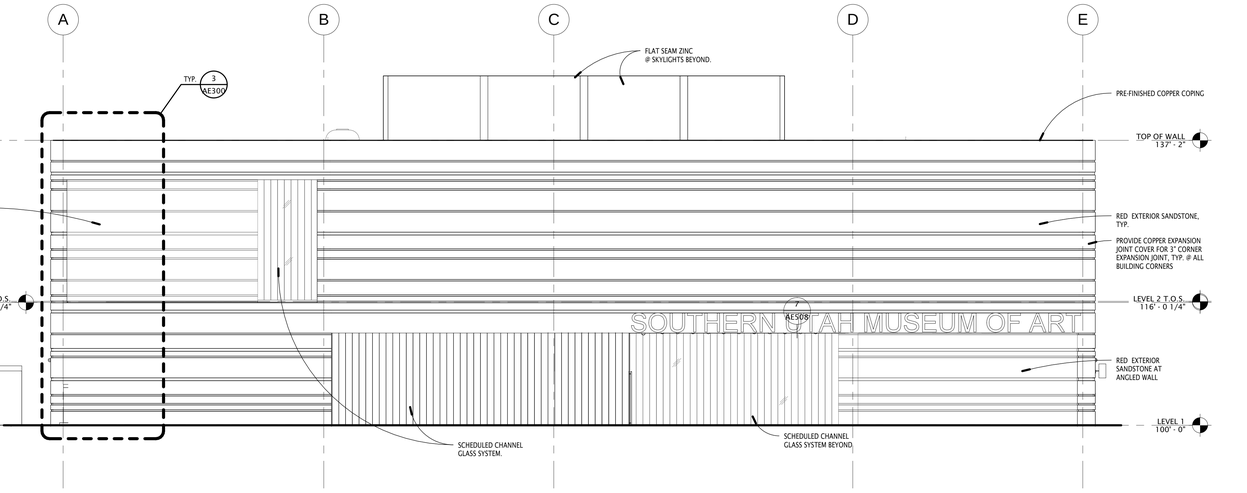
4 AE200 WEST ELEVATION
1/8" = 1'-0"



2 AE200 NORTH ELEVATION
1/8" = 1'-0"



3 AE200 EAST ELEVATION
1/8" = 1'-0"



1 AE200 SOUTHERN UTAH MUSEUM OF ART
1/8" = 1'-0"

SOUTHERN UTAH MUSEUM OF ART

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EXTERIOR ELEVATIONS

AE200

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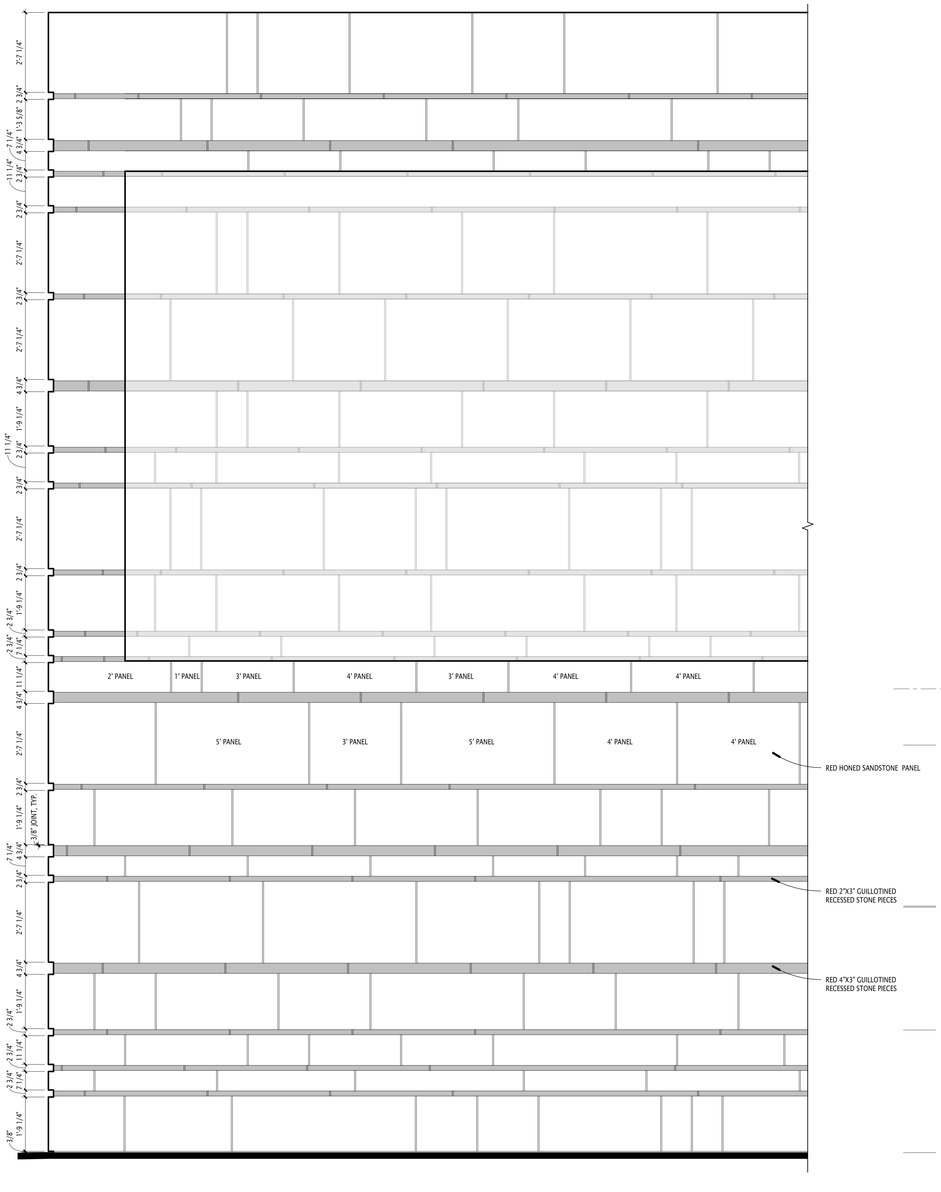
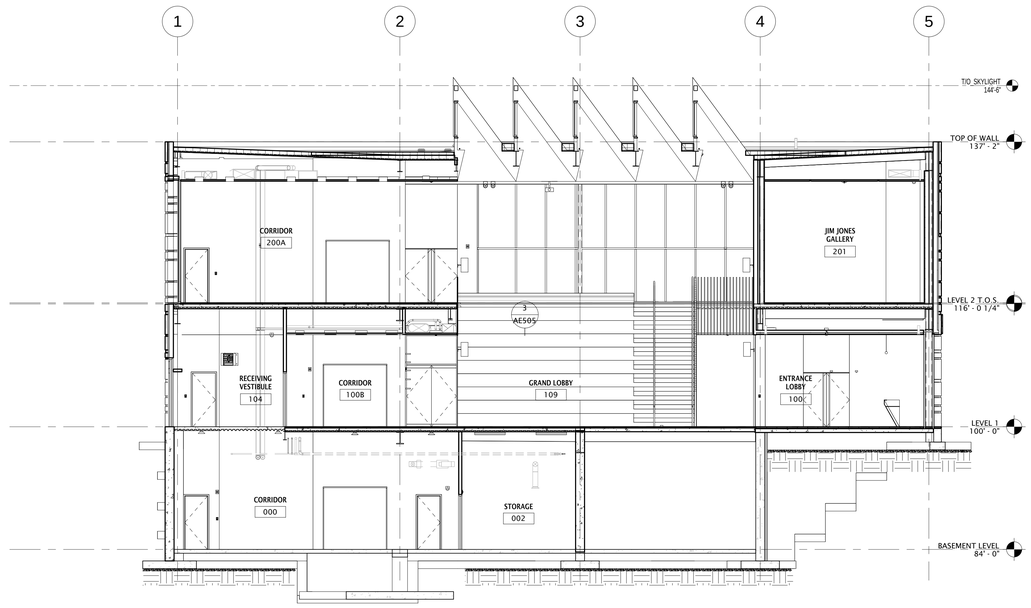
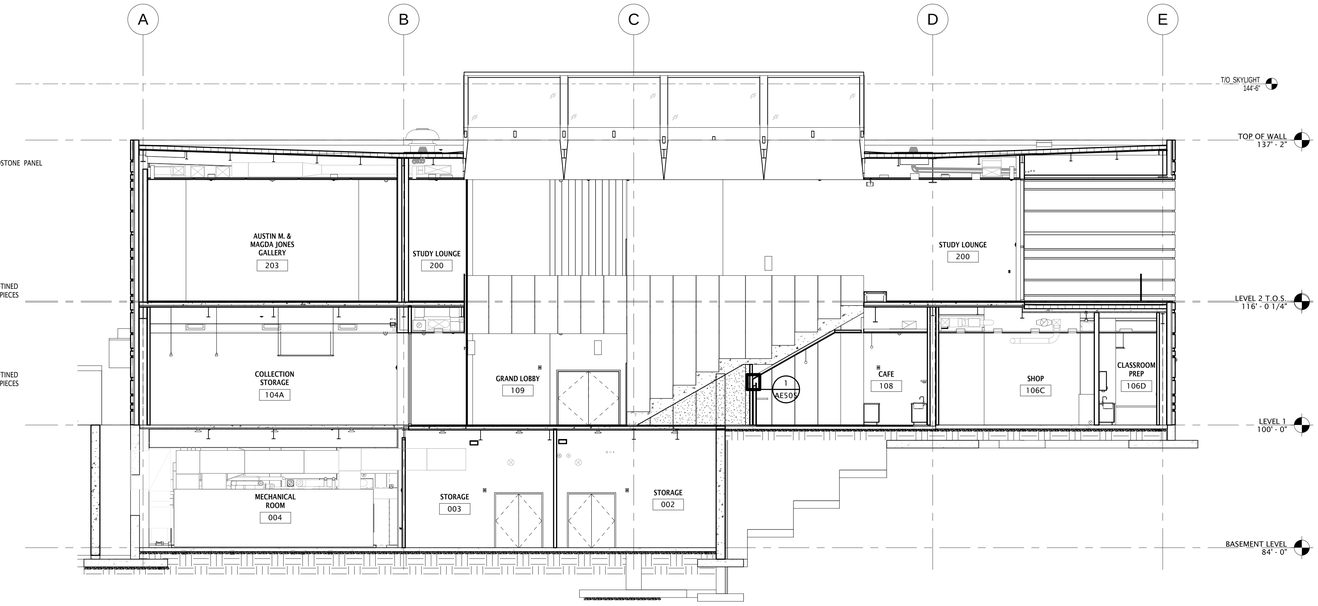


3 AE300 TYP. SANDSTONE PANEL PATTERN / ELEVATION
1/2" = 1'-0"



2 AE300 NS BUILDING SECTION
1/8" = 1'-0"



1 AE300 EW BUILDING SECTION
1/8" = 1'-0"

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BUILDING SECTIONS

AE300

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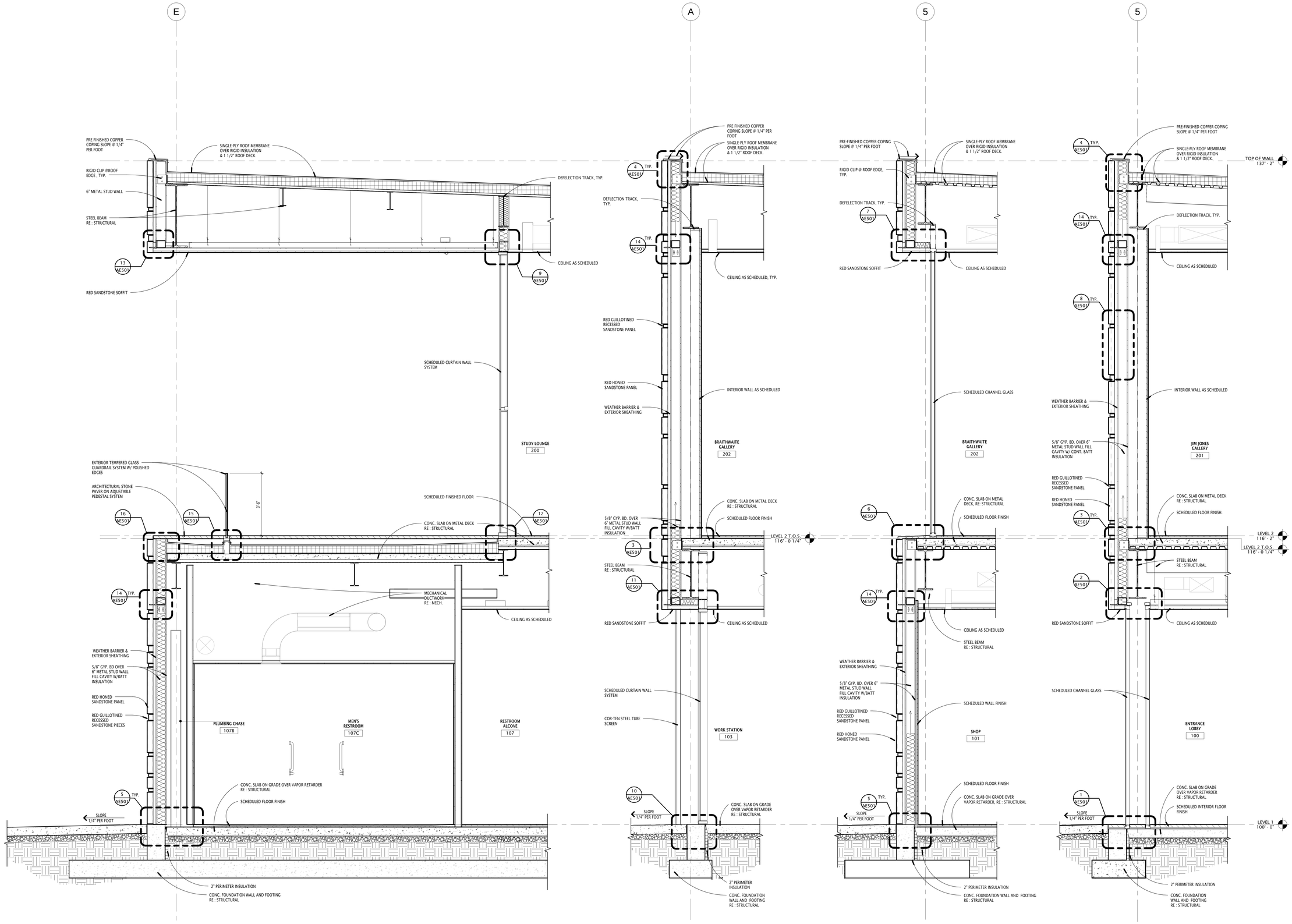

4 AE301 WALL SECTION 5
1/2" = 1'-0"

3 AE301 WALL SECTION 3
1/2" = 1'-0"

2 AE301 WALL SECTION 2
1/2" = 1'-0"

1 AE301 WALL SECTION 1
1/2" = 1'-0"

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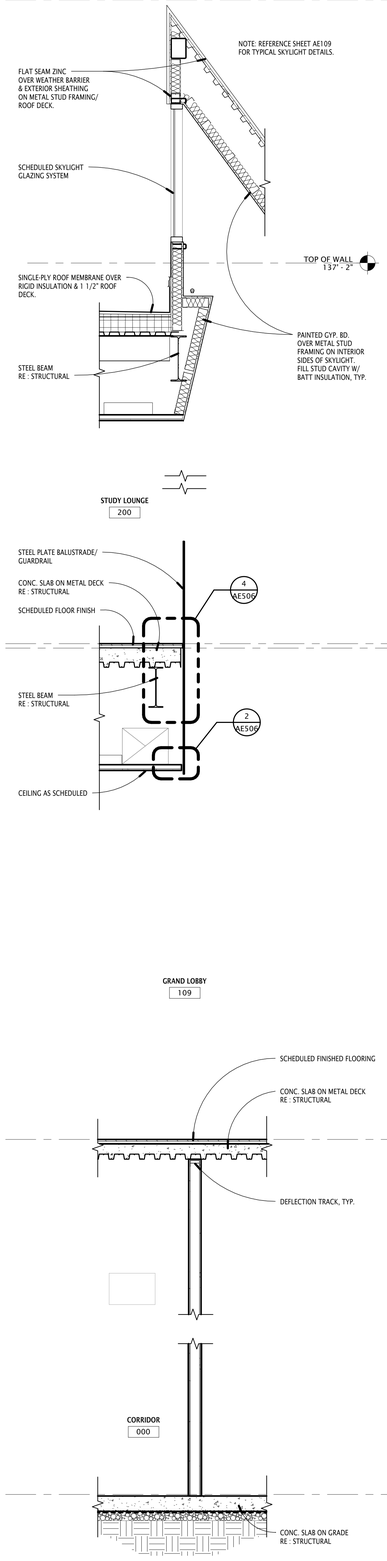
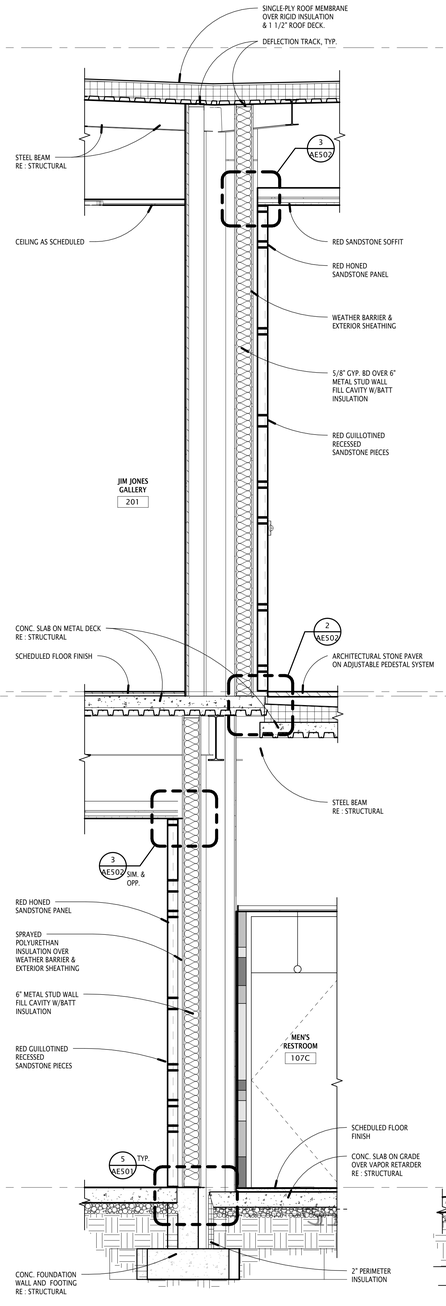
WALL SECTIONS

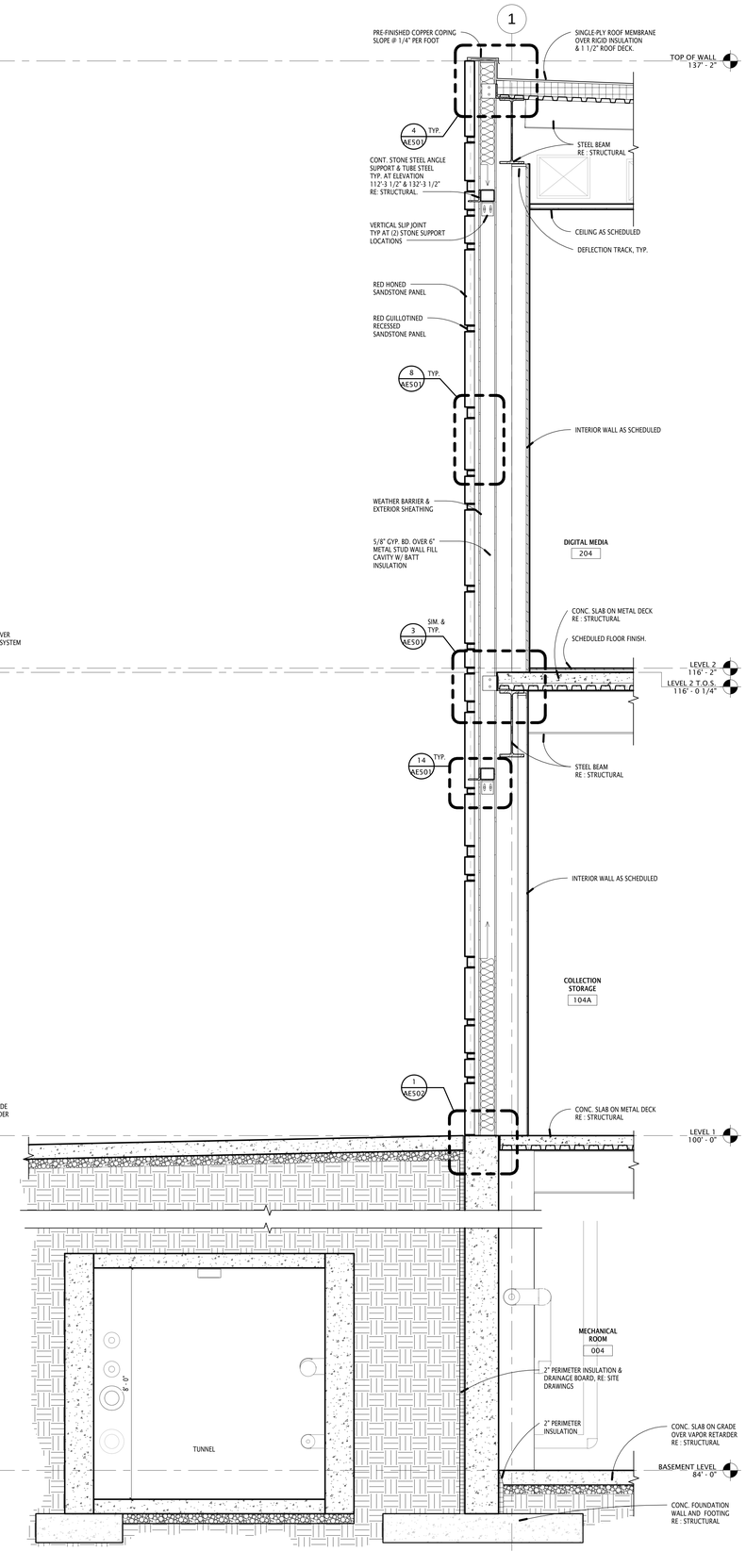
AE301



3 AE302 WALL SECTION 7
1/2" = 1'-0"



2 AE302 WALL SECTION 6
1/2" = 1'-0"



1 AE302 WALL SECTION 4
1/2" = 1'-0"

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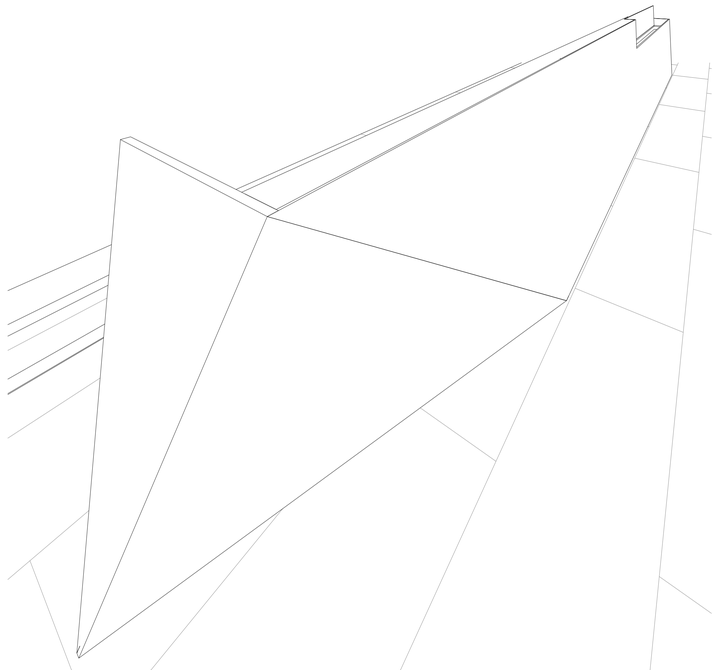
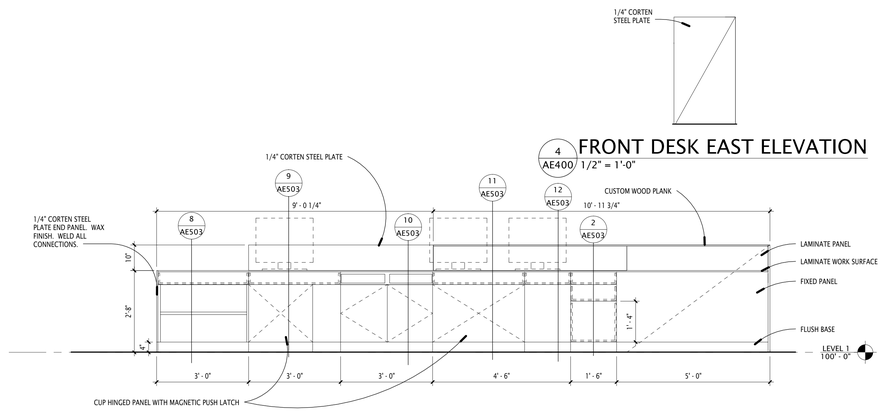
WALL SECTIONS

AE302

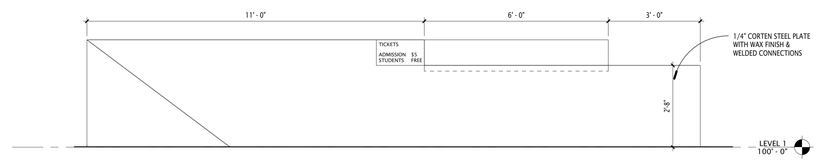


5 AE400 FRONT DESK-PERSPECTIVE VIEW
NTS

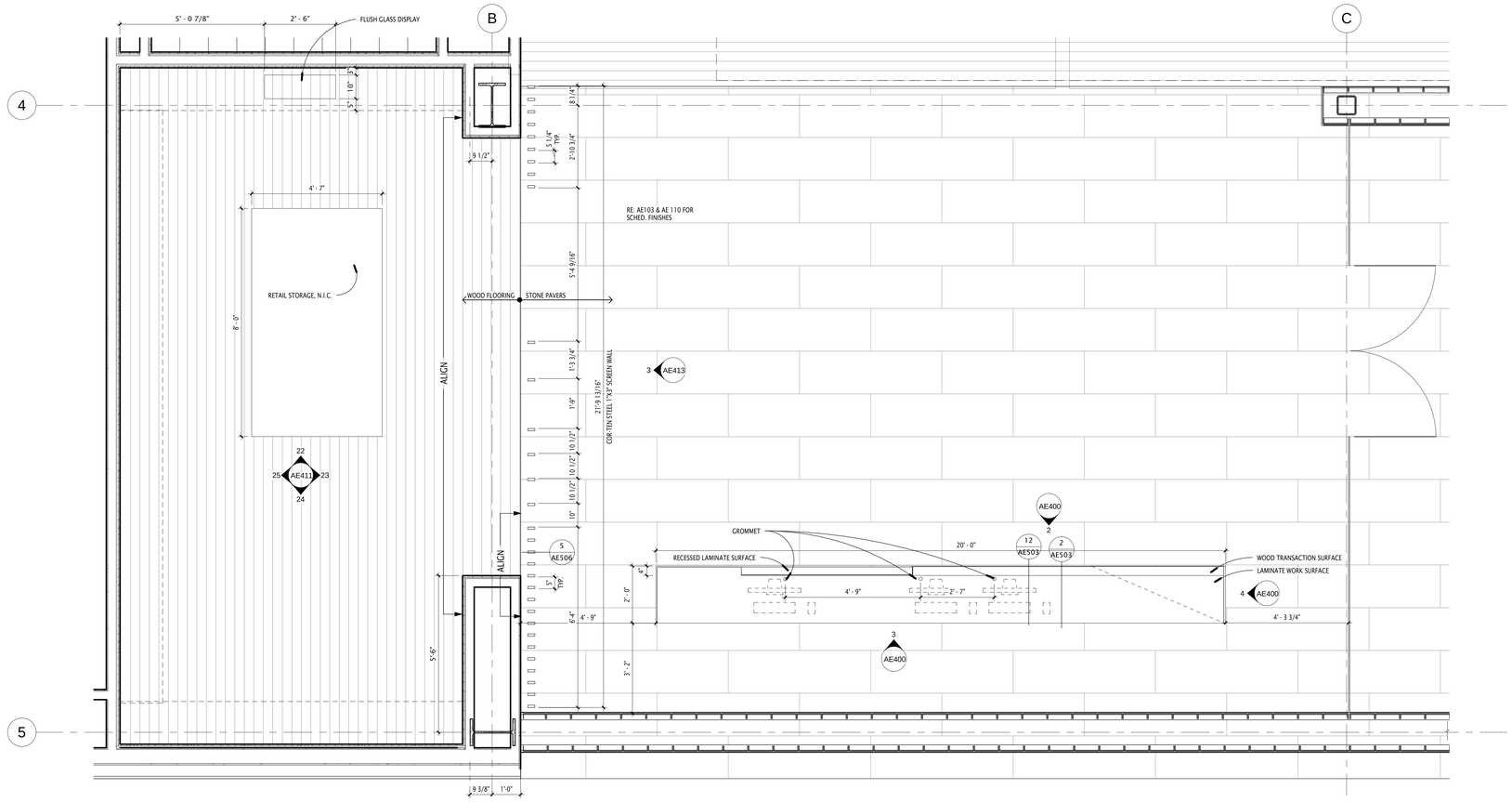


4 AE400 FRONT DESK EAST ELEVATION
1/2" = 1'-0"

3 AE400 FRONT DESK REAR ELEVATION
1/2" = 1'-0"



2 AE400 FRONT DESK FRONT ELEVATION
1/2" = 1'-0"



1 AE400 ENLARGED ENTRANCE PLAN
1/2" = 1'-0"

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ENLARGED PLANS

AE400

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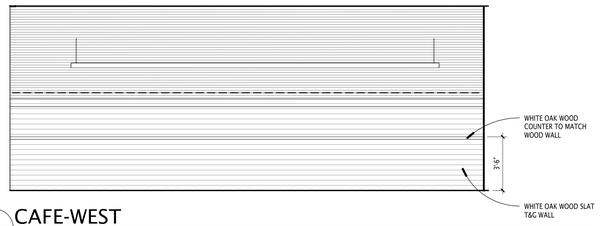
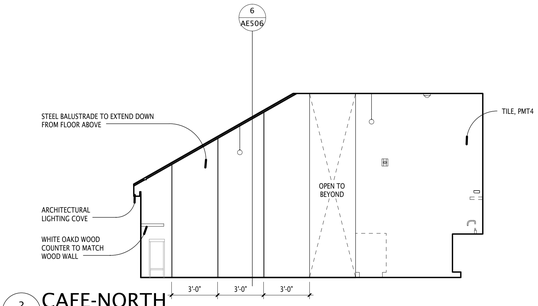
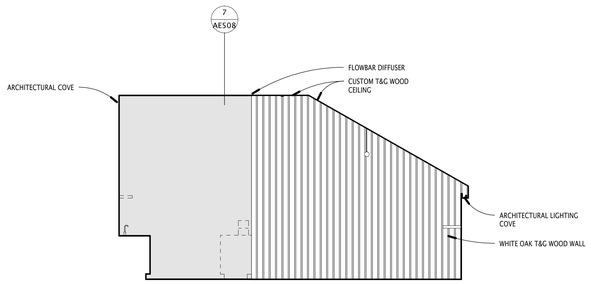


7 AE401 CAFE-WEST
1/4" = 1'-0"

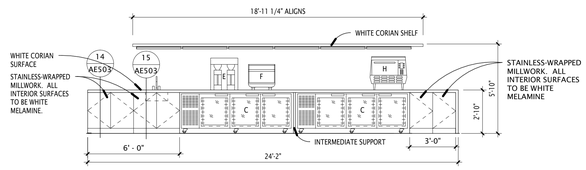


2 AE401 CAFE-NORTH
1/4" = 1'-0"

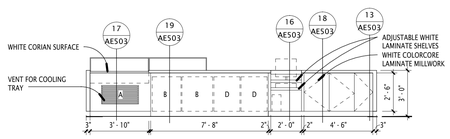
CAFE APPLIANCE KEY	
A	DROP-IN WRAPPED COLD WALL COLD PAN
B	UNDERCOUNTER REF/FREEZER
C	UNDERCOUNTER GLASS-FRONT PREP TABLE REFRIGERATION
D	UNDERCOUNTER ICE MAKER
E	COFFEE MACHINE
F	ESPRESSO MACHINE
G	COFFEE GRINDER
H	WARMING/ CONVECTION OVEN



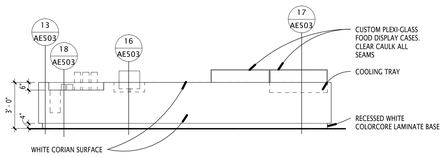
6 AE401 CAFE-SOUTH
1/4" = 1'-0"



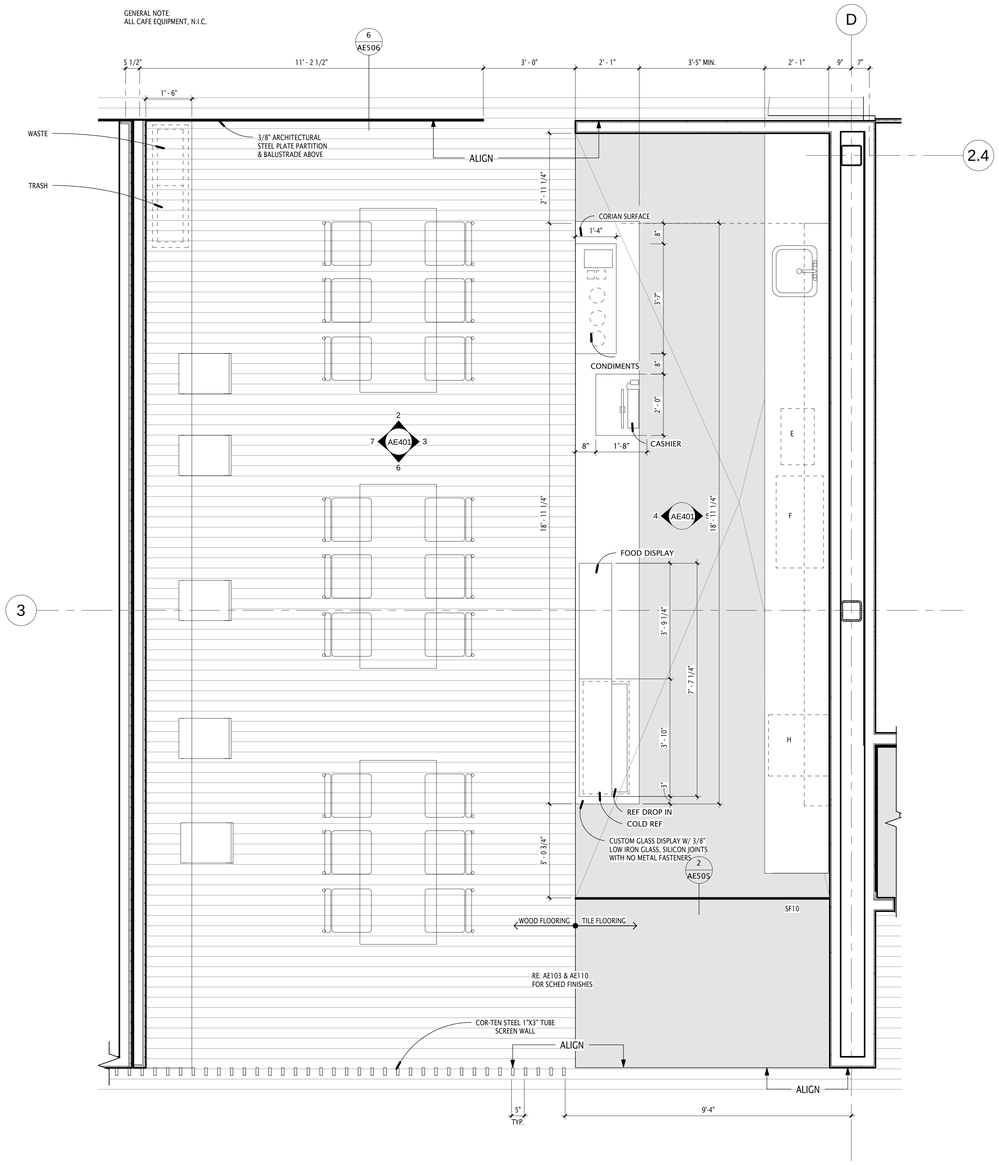
5 AE401 ENLARGED CAFE PREP BAR ELEVATION
1/4" = 1'-0"



4 AE401 CAFE SERVICE BAR REAR ELEVATION
1/4" = 1'-0"



3 AE401 CAFE SERVICE BAR FRONT ELEVATION
1/4" = 1'-0"



1 AE401 ENLARGED CAFE PLAN
1/2" = 1'-0"

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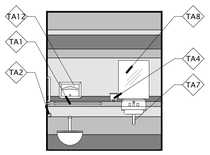
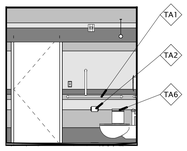
ENLARGED PLANS

AE401

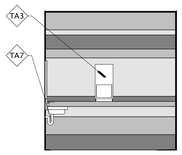


25 AE410 RESTROOM 205-WEST
1/4" = 1'-0"



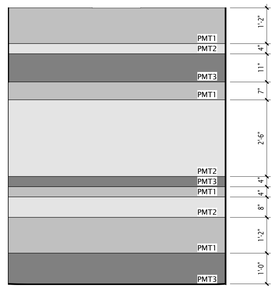
24 AE410 RESTROOM 205-SOUTH
1/4" = 1'-0"

23 AE410 RESTROOM 205-EAST
1/4" = 1'-0"



22 AE410 RESTROOM 205-NORTH
1/4" = 1'-0"

TILE LEGEND	
PMT1	
PMT2	
PMT3	
NOTE:	
ALL TILE PATTERN DESIGNS, REFER TO DRAWING 26/AE410	

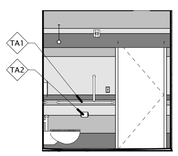


26 AE410 RESTROOM TILE PATTERN
1/2" = 1'-0"

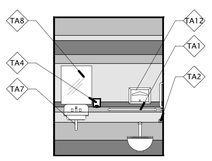
TOILET ROOM ACCESSORIES KEY		
TAG	DESCRIPTION	REMARKS
TA1	1 1/4" OUTSIDE DIA. STAINLESS STEEL GRAB BAR	STAINLESS STEEL, SATIN FINISH, SNAP FLANGE, WALL THICKNESS NOT LESS THAN 18 GAUGE 1 1/2" CLEARANCE BETWEEN WALL SURFACE AND INSIDE FACE OF BAR.
TA2	TOILET TISSUE DISPENSER *PROVIDED AND INSTALLED BY OWNER	GEORGIA PACIFIC ULTIMATIC 2-ROLL TISSUE SYSTEM DISPENSER, MODEL #0401N, FINISH: TBD
TA3	PAPER TOWEL DISPENSER *PROVIDED AND INSTALLED BY G.C.	GEORGIA PACIFIC VUALL CORMATIC RECESSED TOWEL DISPENSER, MODEL: #SM0271, FINISH: TBD
TA4	SOAP DISPENSER *PROVIDED AND INSTALLED BY OWNER	ULTIMATIC SOAP DISPENSER SYSTEM, MODEL: #S-44C, FINISH: TBD
TA5	SANITARY NAPKIN VENDING UNIT	RECESSED TYPE, STAINLESS STEEL, ALL WELDED CONSTRUCTION. PROVIDE 1 IN EACH WOMEN'S RESTROOM. COIN OPERATED 25 CENT.
TA6	SANITARY NAPKIN DISPOSAL UNITS	SURFACE MOUNTED, STAINLESS STEEL, SELF CLOSING DOOR AND REMOVABLE STAINLESS STEEL RECEPTACLE ALL WELDED CONSTRUCTION. PROVIDE AT EACH WOMEN'S TOILET FIXTURE.
TA7	LAVATORY GUARD	PROVIDE AT EACH LAVATORY
TA8	1/4" POLISHED PLATE GLASS MIRROR	FRAMELESS, SIZE PER ELEVATIONS ABOVE EACH LAVATORY AS SPECIFIED IN SECTION 088300
TA9	CEILING MOUNTED TOILET PARTITIONS	STAINLESS STEEL
TA10	MOP AND BROOM HOLDER	SURFACE MOUNTED, STAINLESS STEEL
TA11	SHELF	18 GAUGE SATIN-FINISH STAINLESS STEEL. 3/4" HEMMED EDGES. 16 GAUGE STAINLESS STEEL BRACKETS. REFER TO ELEVATIONS FOR SHELF LENGTH.
TA12	TOILET SEAT COVER DISPENSER	
TA13	URINAL PARTITIONS	
TA14	BABY CHANGING STATION	HORIZONTAL, WALL MOUNTED UNIT. POLYETHYLENE, CREAM COLOR. PNEUMATIC CYLINDER CONTROLLED. NYLON SAFETY STRAP. HOLDS UP TO 300 LBS.
TA15	WASTE RECEPTACLE	22 GAUGE STAINLESS STEEL. EXPOSED SURFACE SHALL HAVE SATIN FINISH AND BE EQUIPPED WITH VINYL BUMPER STRIP AND RUBBER FEET. CAPACITY SHALL BE MIN. 20 GAL.
TA16	WASTE RECEPTACLE	22 GAUGE STAINLESS STEEL. EXPOSED SURFACE SHALL HAVE SATIN FINISH AND BE EQUIPPED WITH VINYL BUMPER STRIP. WALL MOUNTED. CAPACITY SHALL BE MIN. 12 GAL.

NOTE:
1. GENERAL CONTRACTOR CHALL PROVIDE FIRE RATED SOLID BLOCKING FOR ALL WALL MOUNTED ITEMS, TYPICAL.
2. ALL BRACES, BRACKETS , HINGES, SCREWS ECT. FOR ACCESSORY FASTENERS SHALL BE STAINLESS STEEL.

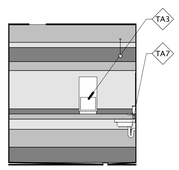
21 AE410 RESTROOM 206-WEST
1/4" = 1'-0"



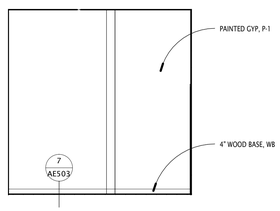
20 AE410 RESTROOM 206-SOUTH
1/4" = 1'-0"



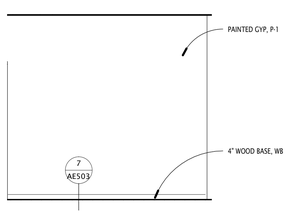
19 AE410 RESTROOM 206-EAST
1/4" = 1'-0"



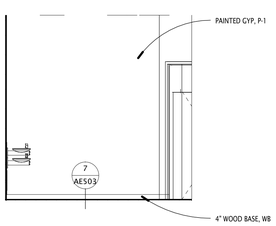
18 AE410 RESTROOM 206-NORTH
1/4" = 1'-0"



17 AE410 RESTROOM ALCOVE-WEST
1/4" = 1'-0"



16 AE410 RESTROOM ALCOVE-SW
1/4" = 1'-0"



15 AE410 RESTROOM ALCOVE-EAST
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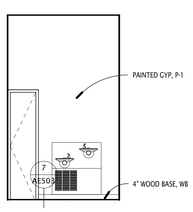

14 AE410 RESTROOM ALCOVE-NORTH
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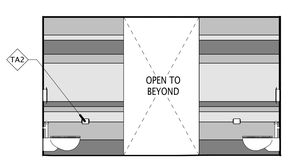

13 AE410 WOMEN'S RESTROOM-WEST2
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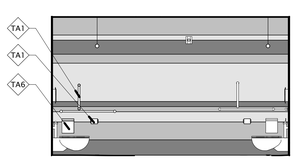

12 AE410 WOMEN'S RESTROOM-EAST2
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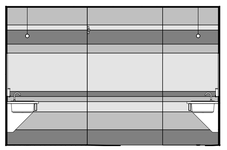

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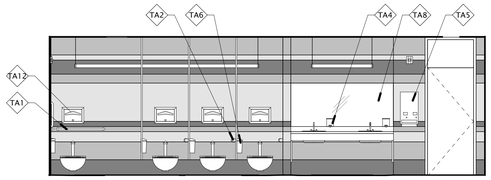
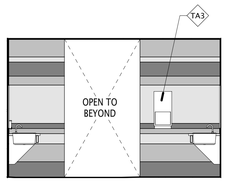


10 AE410 WOMEN'S RESTROOM-SOUTH
1/4" = 1'-0"



9 AE410 WOMEN'S RESTROOM-EAST1
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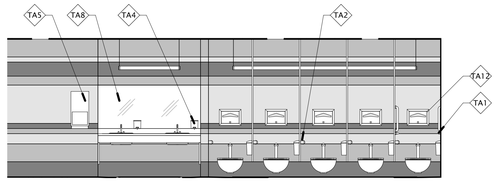

8 AE410 WOMEN'S RESTROOM-NORTH
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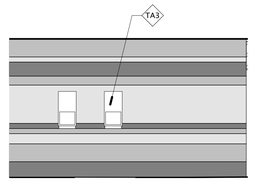

7 AE410 MEN'S RESTROOM-SW
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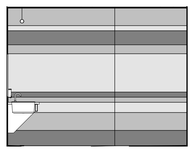

6 AE410 MEN'S RESTROOM-EAST2
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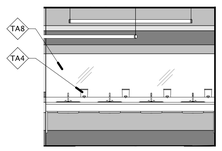

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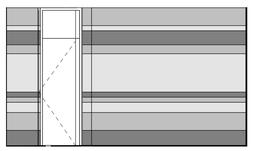

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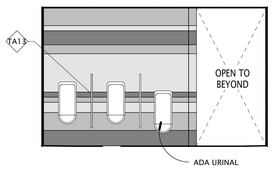

3 AE410 MEN'S RESTROOM-SOUTH
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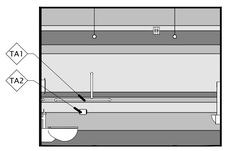
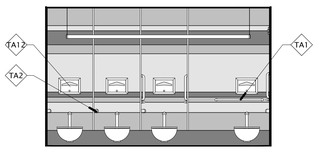


2 AE410 MEN'S RESTROOM-EAST1
1/4" = 1'-0"



1 AE410 MEN'S RESTROOM-NORTH1
1/4" = 1'-0"

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REVISIONS:

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Division of Facilities Construction Management, Southern Utah University

DRAWN BY:	Author
CHECKED BY:	Checker
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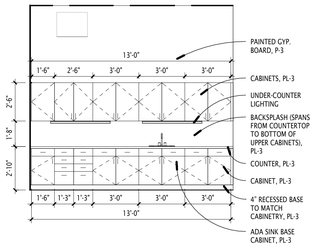
ISSUED DATE:	05/16/2012

INTERIOR ELEVATIONS - RESTROOMS

AE410



26 AE411 CLASSROOM PREP-WEST
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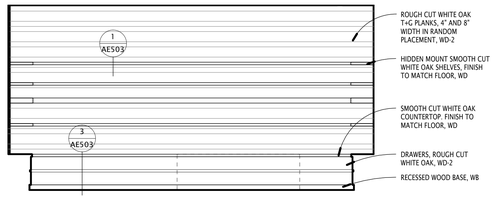

25 AE411 SHOP-WEST
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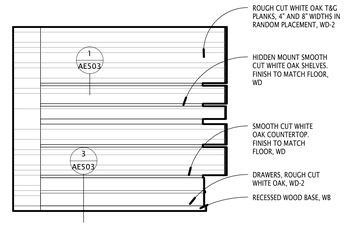

24 AE411 SHOP-SOUTH
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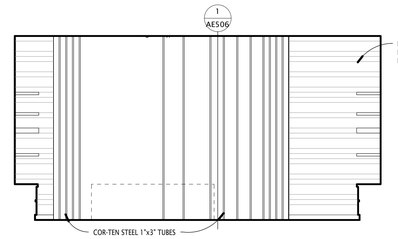

23 AE411 SHOP-EAST
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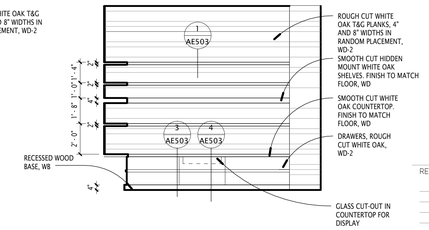

22 AE411 SHOP-NORTH
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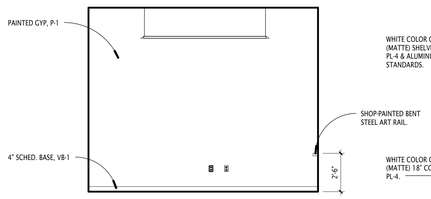
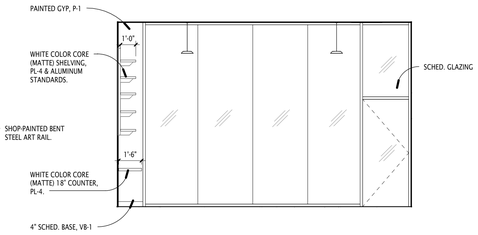


21 AE411 MUSEUM DIRECTOR-WEST
1/4" = 1'-0"



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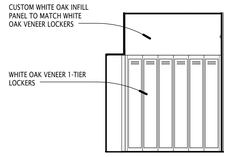

19 AE411 LOCKERS-WEST
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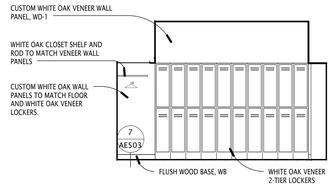

18 AE411 LOCKERS-SOUTH
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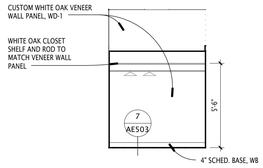

17 AE411 LOCKERS-EAST
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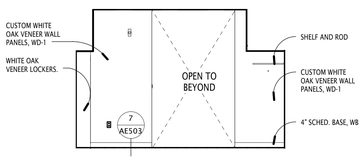

16 AE411 LOCKERS-NORTH
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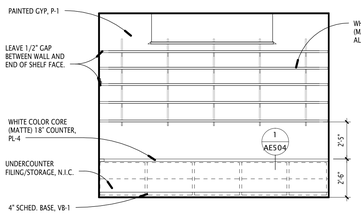
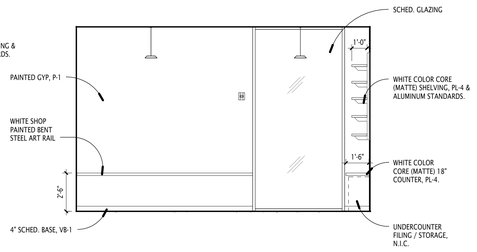
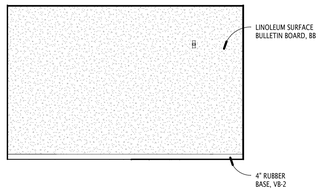


15 AE411 MUSEUM DIRECTOR-EAST
1/4" = 1'-0"



14 AE411 MUSEUM DIRECTOR-NORTH
1/4" = 1'-0"



13 AE411 COPY/PANTRY-WEST
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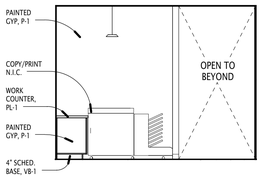

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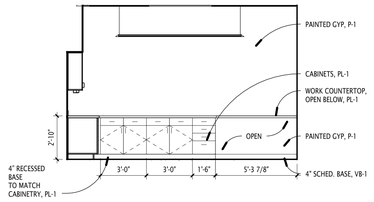

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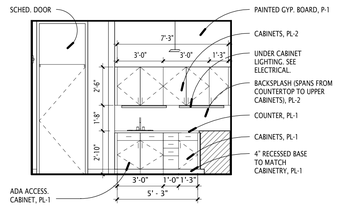
1/4" = 1'-0"



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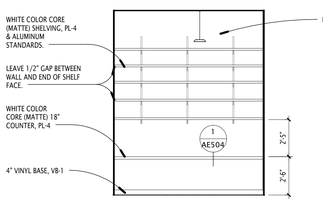

9 AE411 EDUCATION DIRECTOR-WEST
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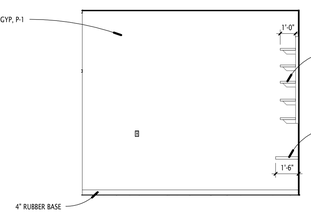

8 AE411 EDUCATION DIRECTOR-SOUTH
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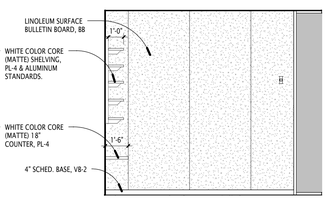

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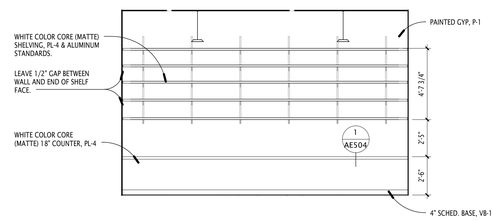

6 AE411 GEN. WORK ROOM-WEST
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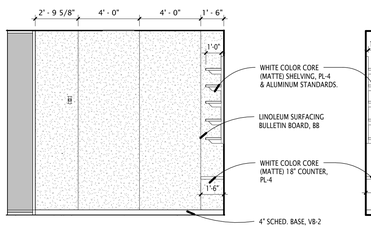

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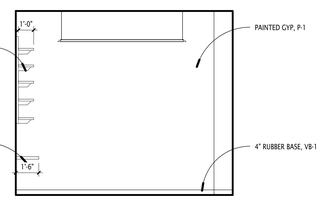

4 AE411 GEN. WORK ROOM-NORTH
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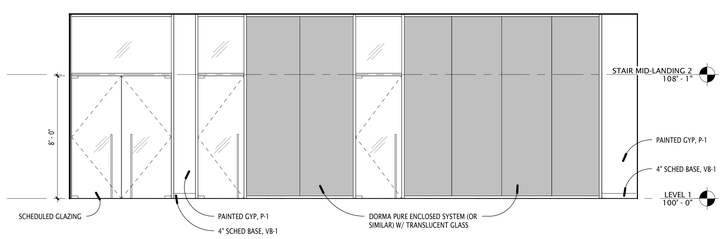

3 AE411 CLASSROOM-WEST
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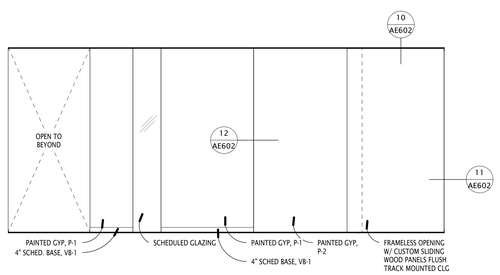

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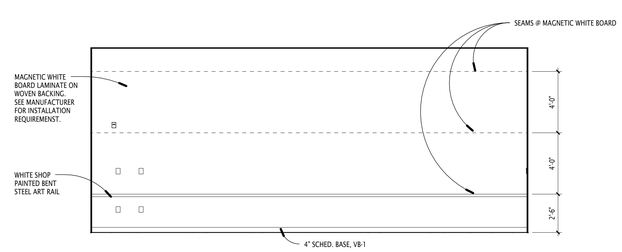
1/4" = 1'-0"



1 AE411 CLASSROOM-NORTH
1/4" = 1'-0"

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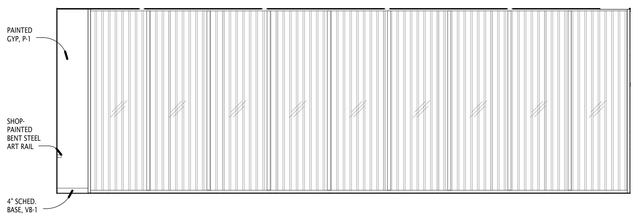
INTERIOR ELEVATIONS - LEVEL 1

AE411



6 AE412 WORK STATION-WEST
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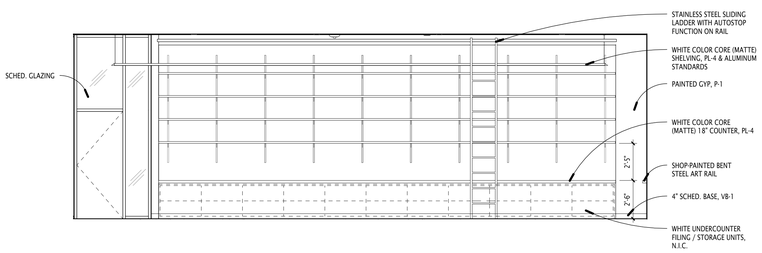

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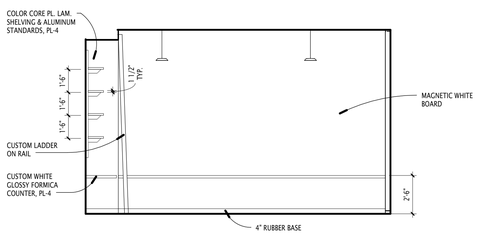

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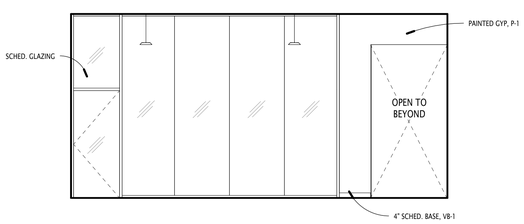

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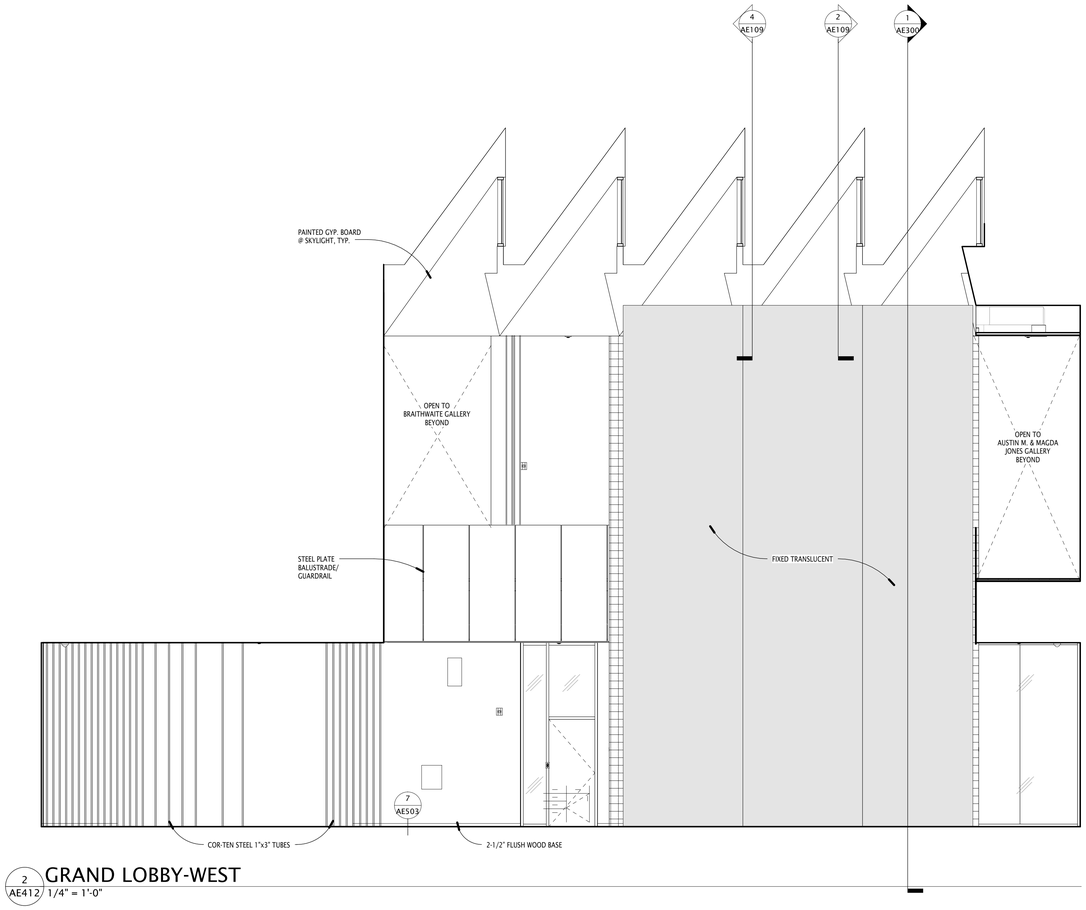

2 AE412 GRAND LOBBY-WEST
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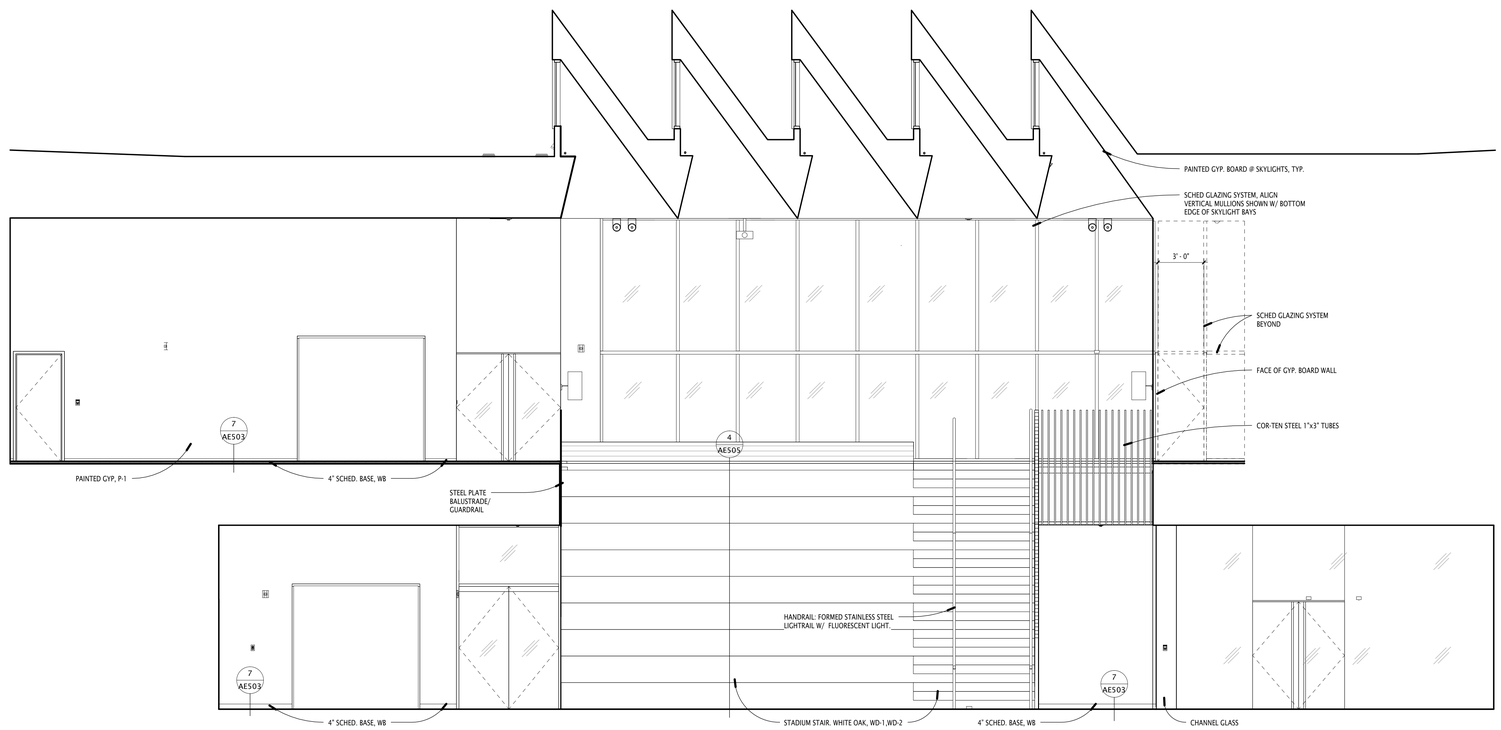

1 AE412 GRAND LOBBY-EAST
1/4" = 1'-0"

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INTERIOR ELEVATIONS - LEVEL 1

AE412

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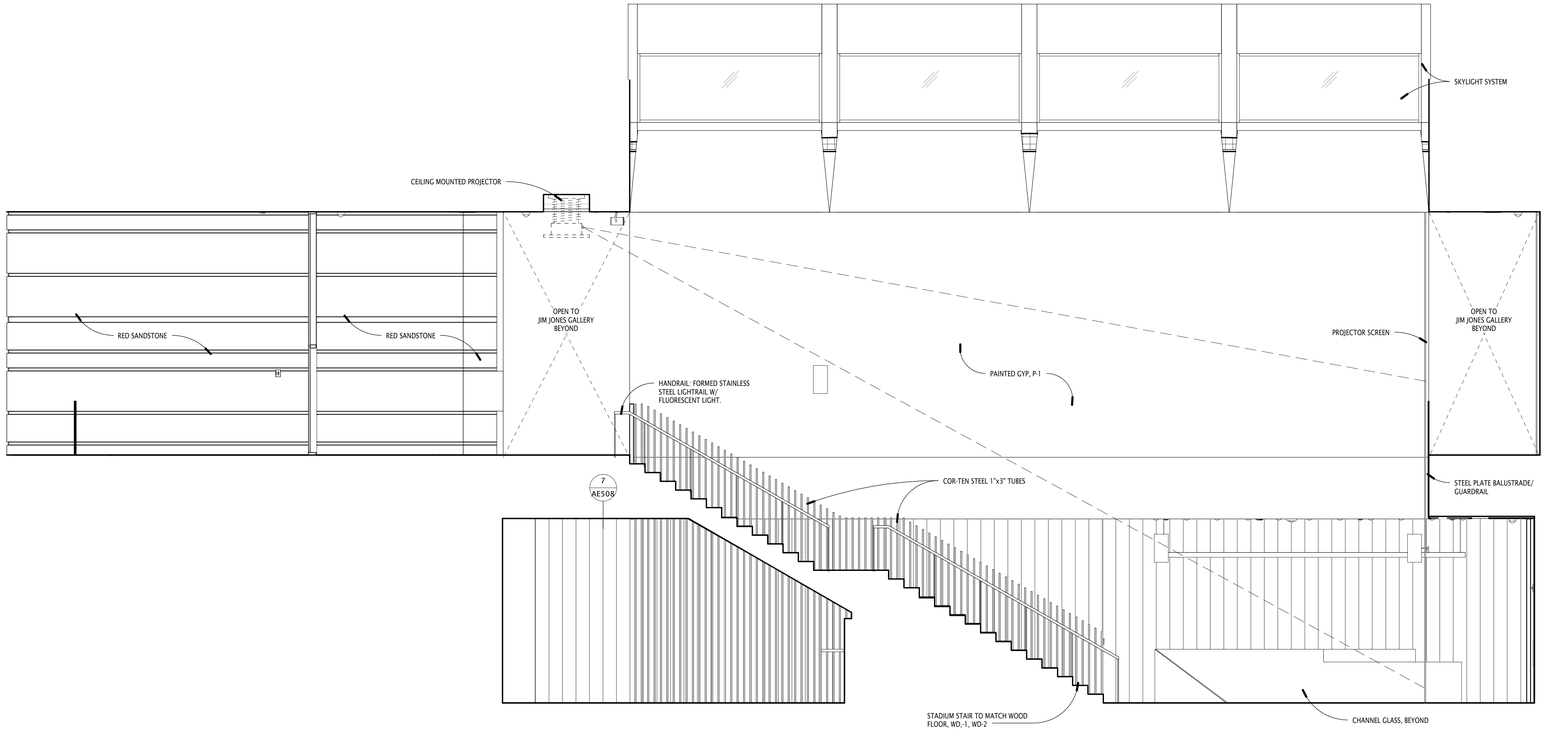
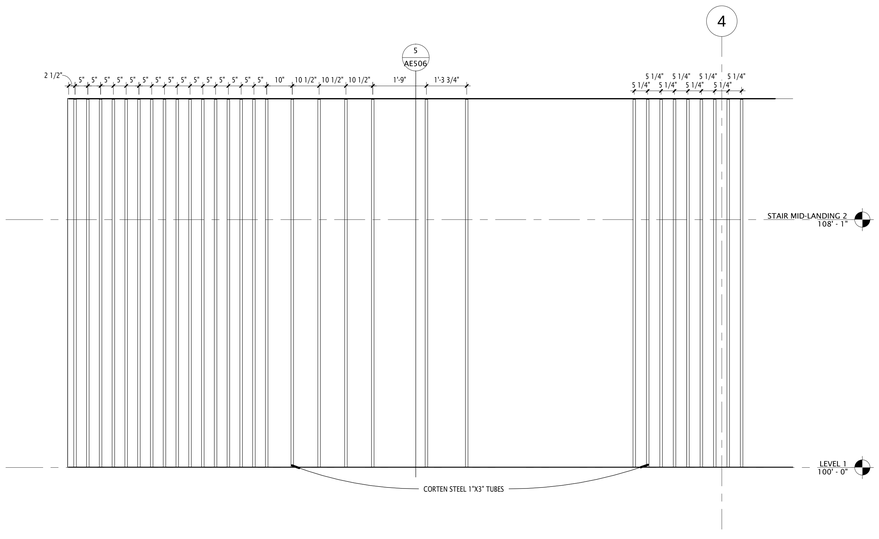
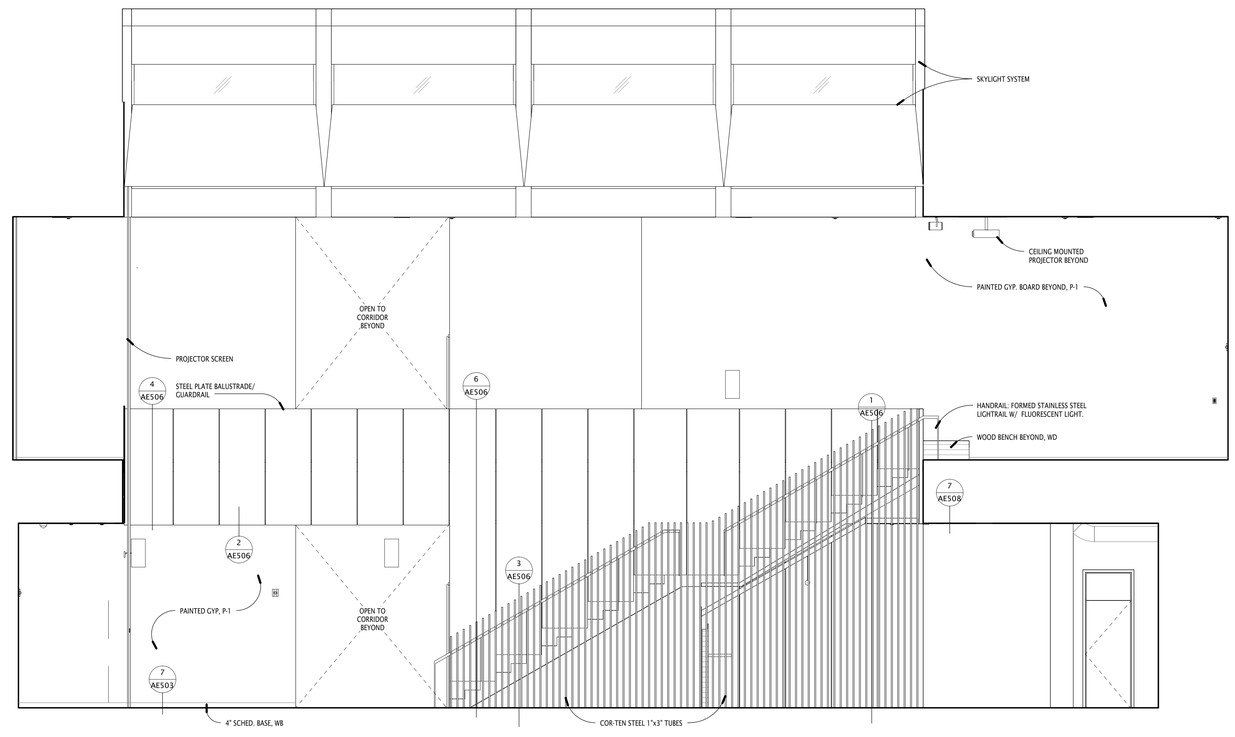


2 AE413 GRAND LOBBY-SOUTH
1/4" = 1'-0"



3 AE413 CORTEN STEEL ELEVATION (RETAIL)
1/2" = 1'-0"



1 AE413 GRAND LOBBY-NORTH
1/4" = 1'-0"

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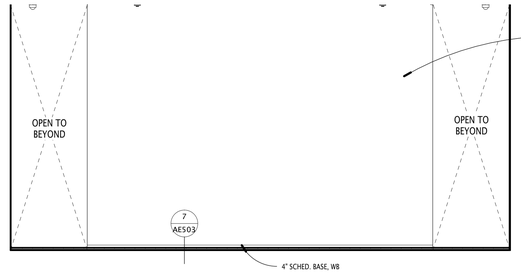
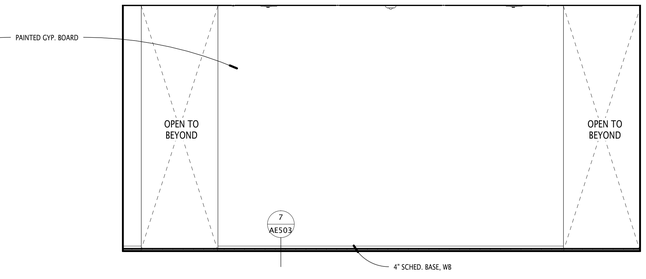
INTERIOR ELEVATIONS - LEVEL 1

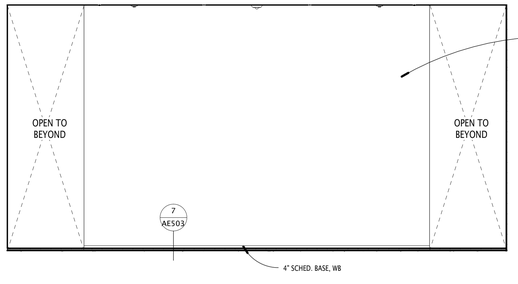
AE413



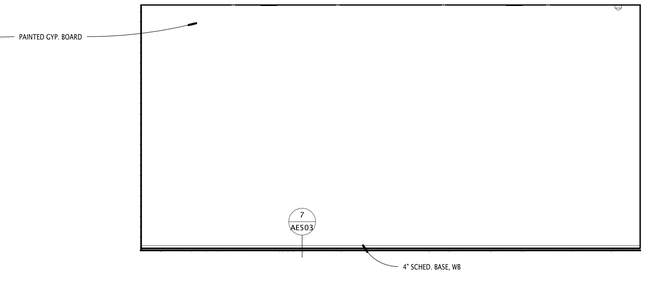
8 AE414 AUSTIN M. & MAGDA JONES GALLERY-SOUTH
1/4" = 1'-0"



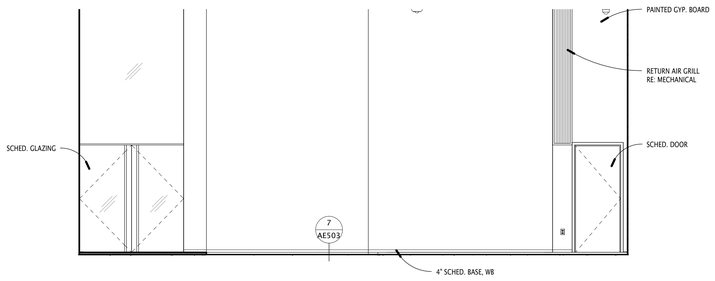
7 AE414 AUSTIN M. & MAGDA JONES GALLERY-NORTH
1/4" = 1'-0"



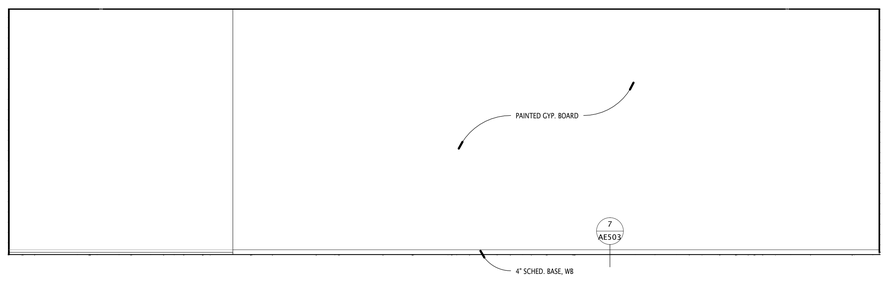
6 AE414 DIGITAL MEDIA-SOUTH
1/4" = 1'-0"



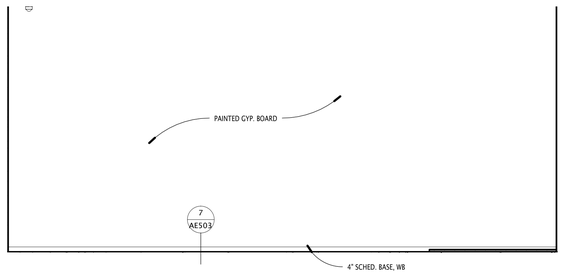
5 AE414 DIGITAL MEDIA-NORTH
1/4" = 1'-0"



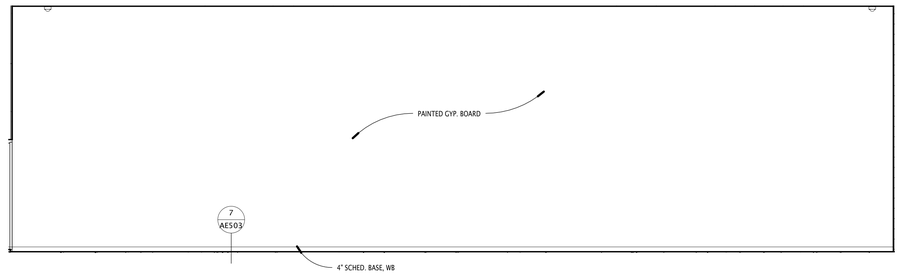
4 AE414 ROCKI ALICE GALLERY-WEST
1/4" = 1'-0"



3 AE414 ROCKI ALICE GALLERY-SOUTH
1/4" = 1'-0"



2 AE414 ROCKI ALICE GALLERY-EAST
1/4" = 1'-0"



1 AE414 ROCKI ALICE GALLERY-NORTH
1/4" = 1'-0"

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INTERIOR ELEVATIONS - LEVEL 2

AE414

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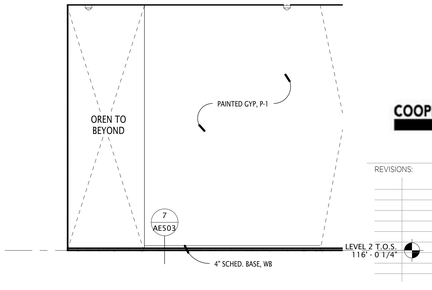
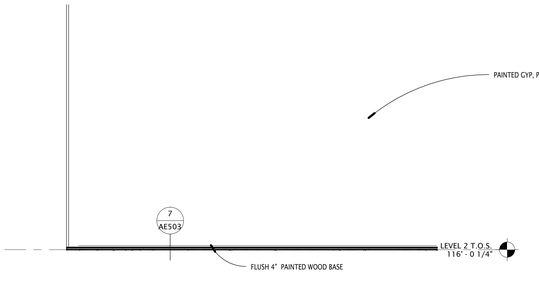
10 AE415 JIM JONES GALLERY-WEST 2
1/4" = 1'-0"

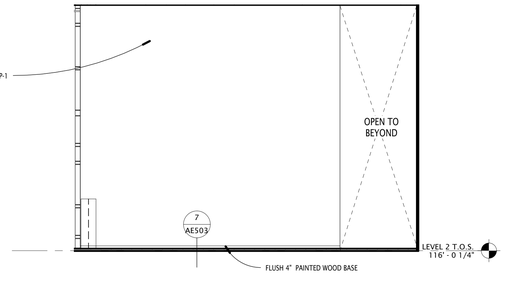
9 AE415 JIM JONES GALLERY-SOUTH
1/4" = 1'-0"



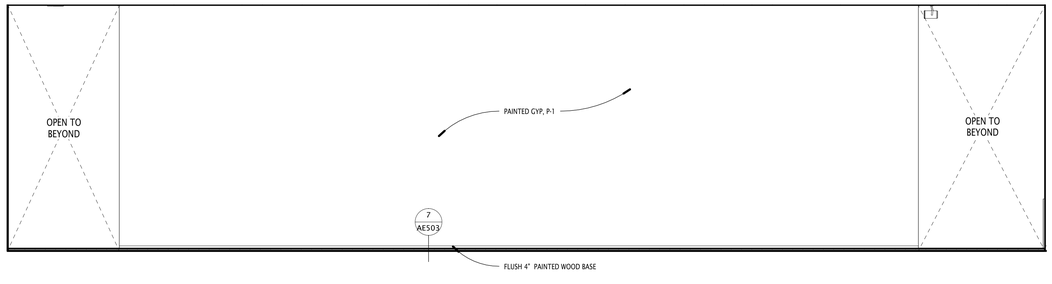
8 AE415 JIM JONES GALLERY-WEST 1
1/4" = 1'-0"



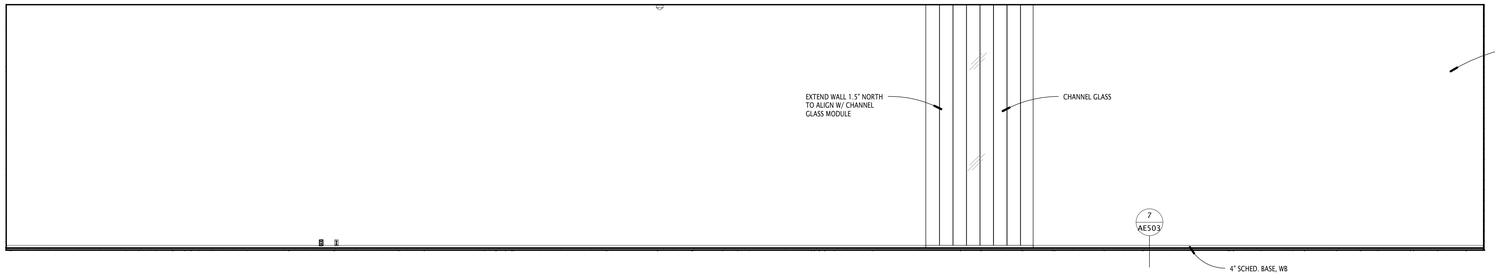
7 AE415 JIM JONES GALLERY-NE
1/4" = 1'-0"



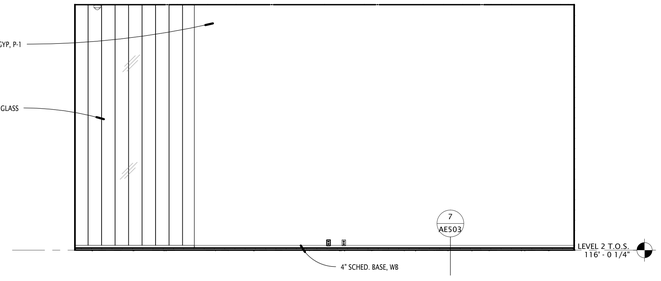
6 AE415 JIM JONES GALLERY-EAST
1/4" = 1'-0"



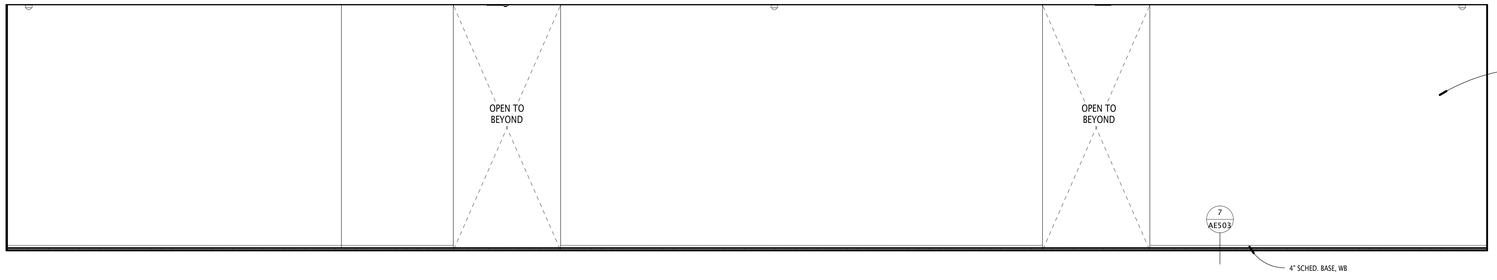
5 AE415 JIM JONES GALLERY-NORTH
1/4" = 1'-0"



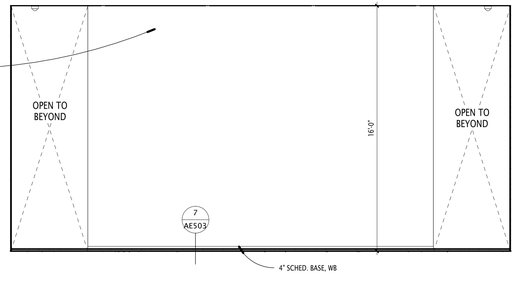
4 AE415 BRAITHWAITE GALLERY-WEST
1/4" = 1'-0"



3 AE415 BRAITHWAITE GALLERY-SOUTH
1/4" = 1'-0"



2 AE415 BRAITHWAITE GALLERY-EAST
1/4" = 1'-0"



1 AE415 BRAITHWAITE GALLERY-NORTH
1/4" = 1'-0"

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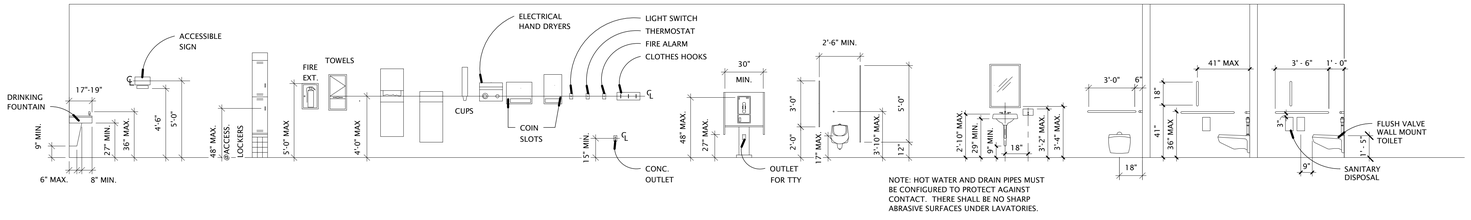
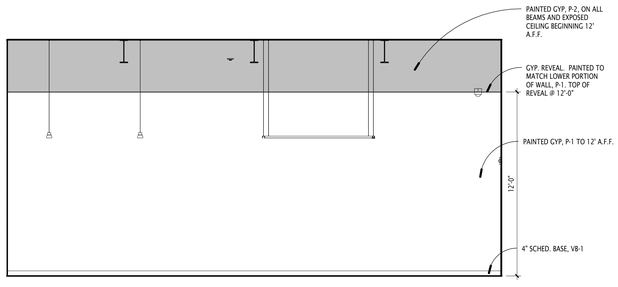
INTERIOR ELEVATIONS - LEVEL 2

AE415



1 / AE416 TYPICAL MOUNTING HEIGHTS
1/4" = 1'-0"



2 / AE416 COLLECTION STORAGE TYP.
1/4" = 1'-0"

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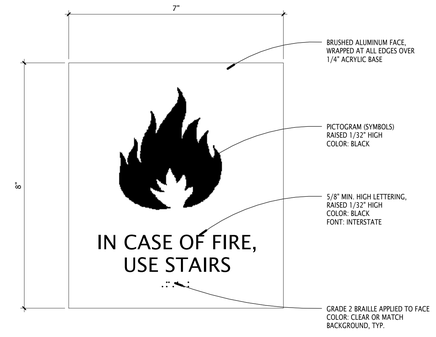
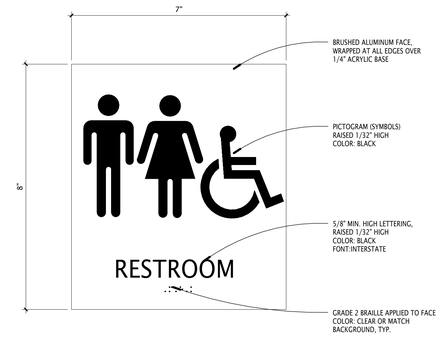
INTERIOR ELEVATIONS-LEVEL 2

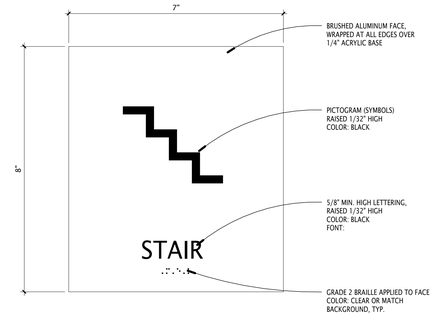
AE416



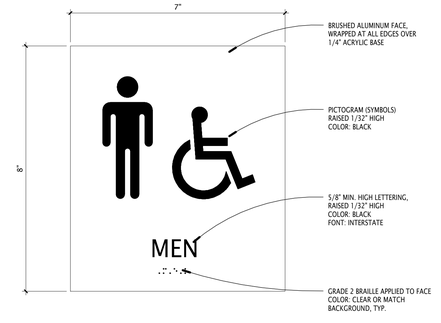
8 AE417 SIGN TYPE 8
6" = 1'-0"



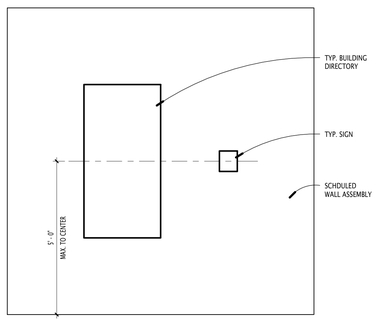
4 AE417 SIGN TYPE 4
6" = 1'-0"



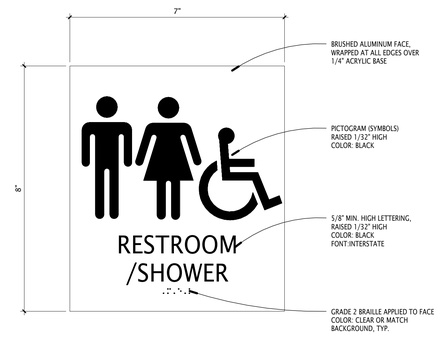
7 AE417 SIGN TYPE 7
6" = 1'-0"



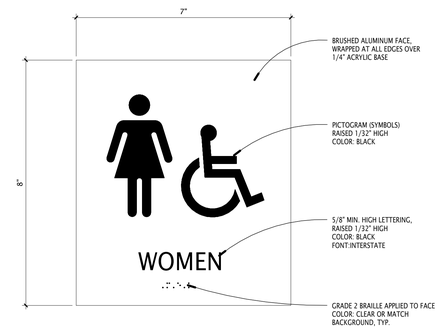
3 AE417 SIGN TYPE 3
6" = 1'-0"



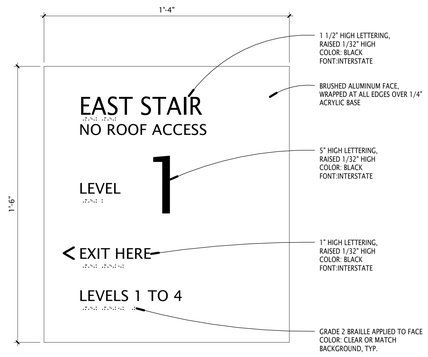
10 AE417 TYP. SIGN & DIRECTORY MOUNTING
1/2" = 1'-0"



6 AE417 SIGN TYPE 6
6" = 1'-0"

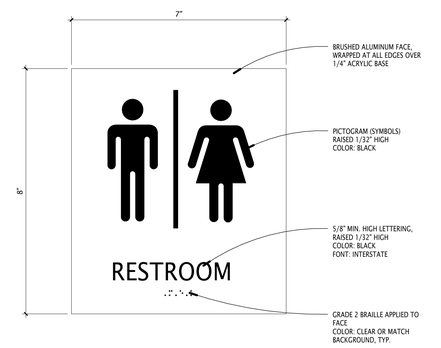


2 AE417 SIGN TYPE 2
6" = 1'-0"



9 AE417 SIGN TYPE 9
3" = 1'-0"

5 AE417 SIGN TYPE 5
6" = 1'-0"



1 AE417 SIGN TYPE 1
6" = 1'-0"

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SIGNAGE DETAILS

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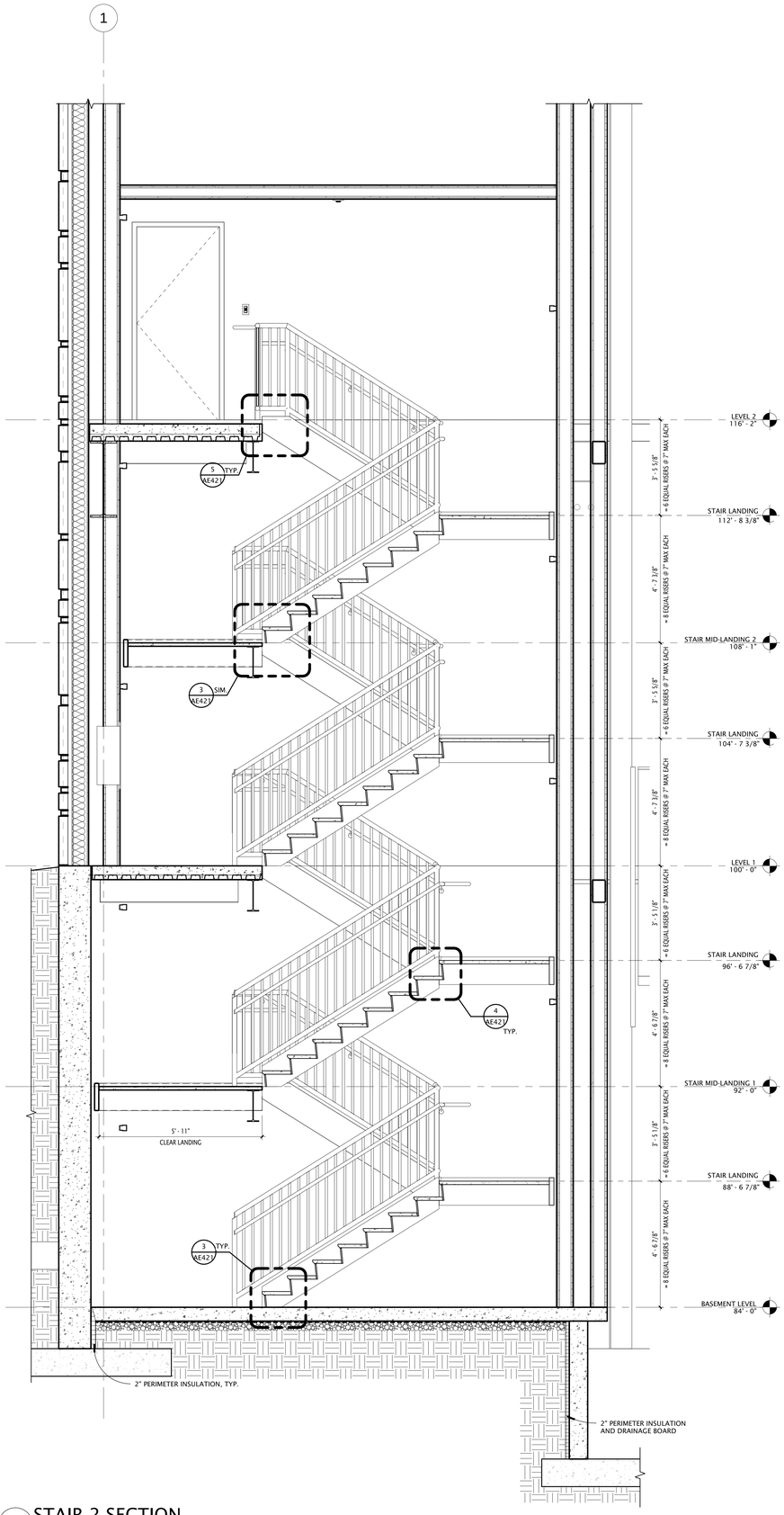
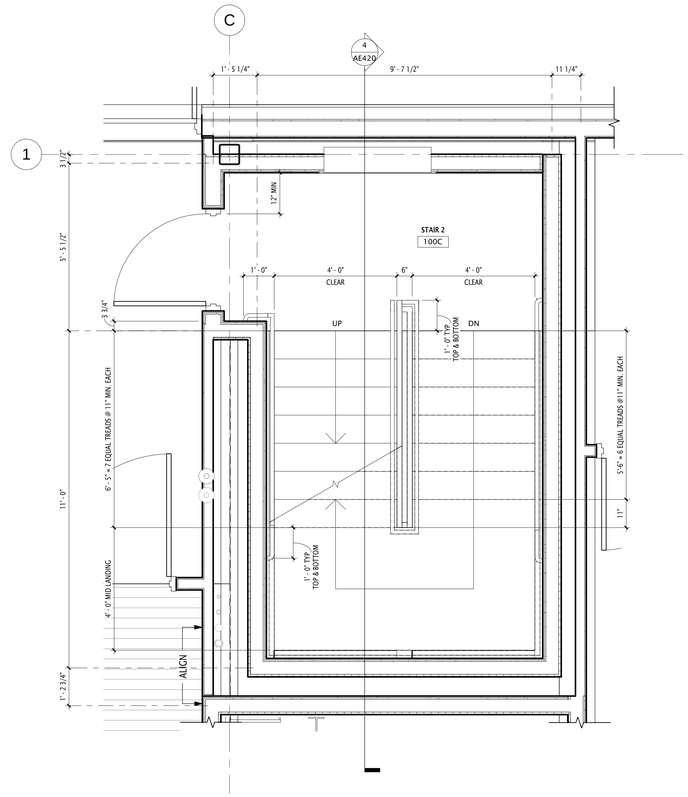
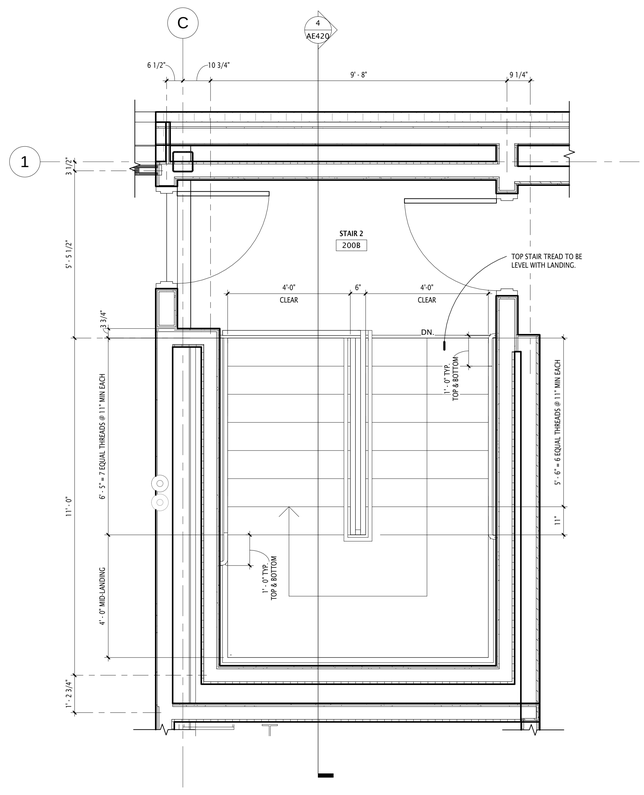


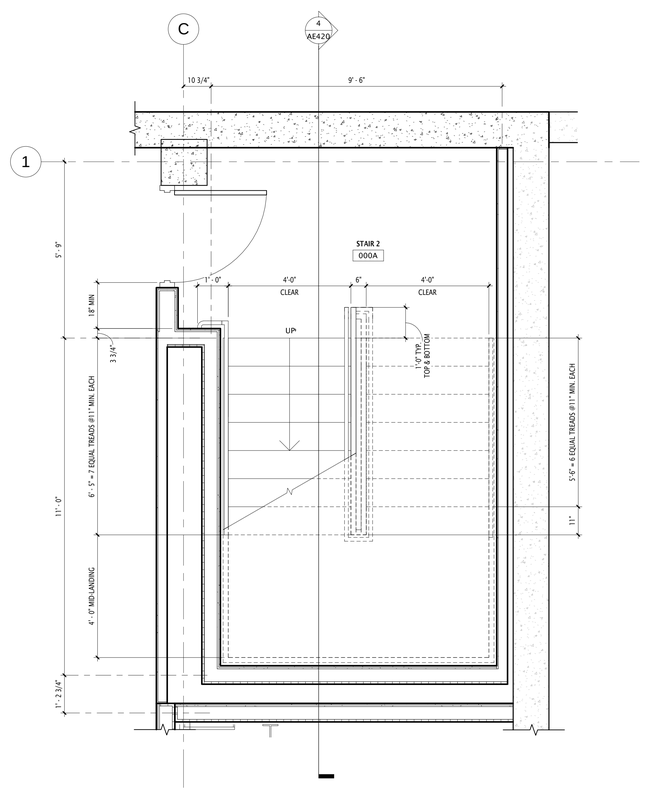
4 AE420 STAIR 2 SECTION
1/2" = 1'-0"



2 AE420 STAIR 2 116 / ELEVATOR ENLARGED PLAN
1/2" = 1'-0"



3 AE420 STAIR 2 216 / ELEVATOR ENLARGED PLAN
1/2" = 1'-0"



1 AE420 STAIR 2 016 / ELEVATOR ENLARGED PLAN
1/2" = 1'-0"

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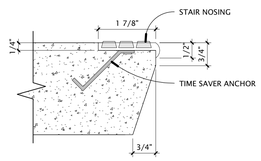
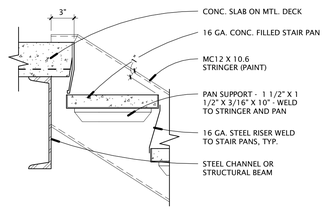
VERTICAL CIRCULATION
PLANS & SECTIONS

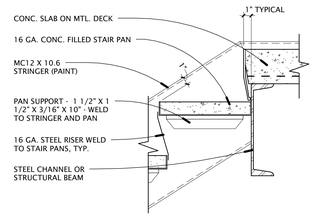
AE420



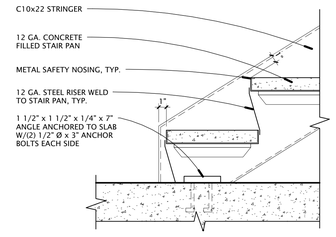
6 AE421 CONC STAIR NOSING
6" = 1'-0"



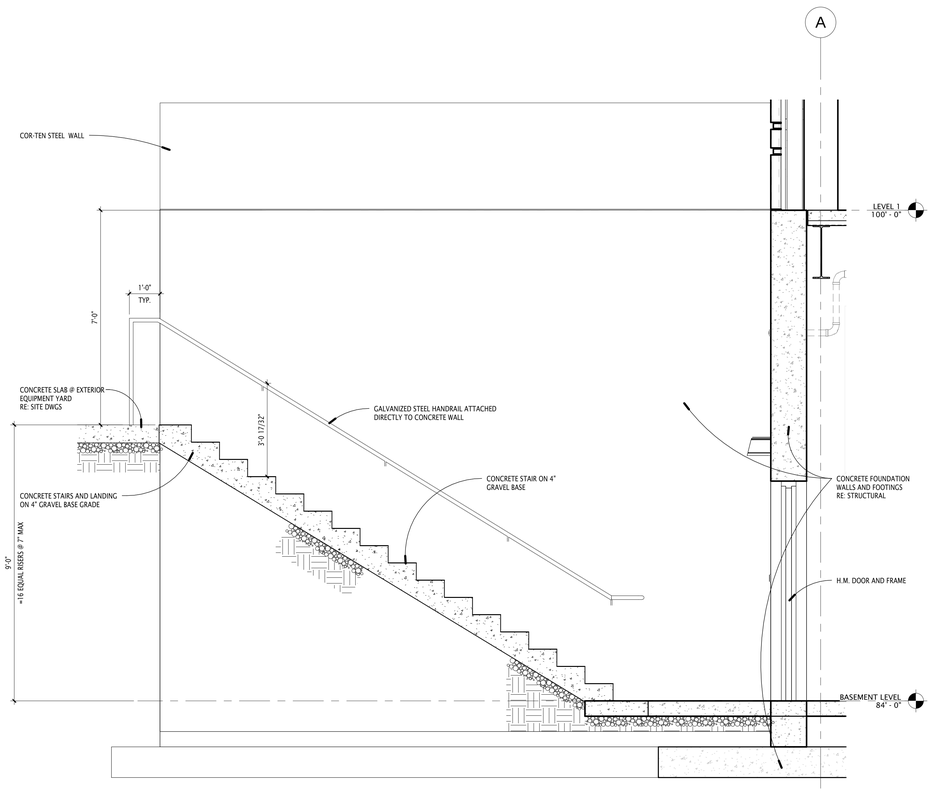
5 AE421 METAL PAN - TOP OF STAIR
1 1/2" = 1'-0"



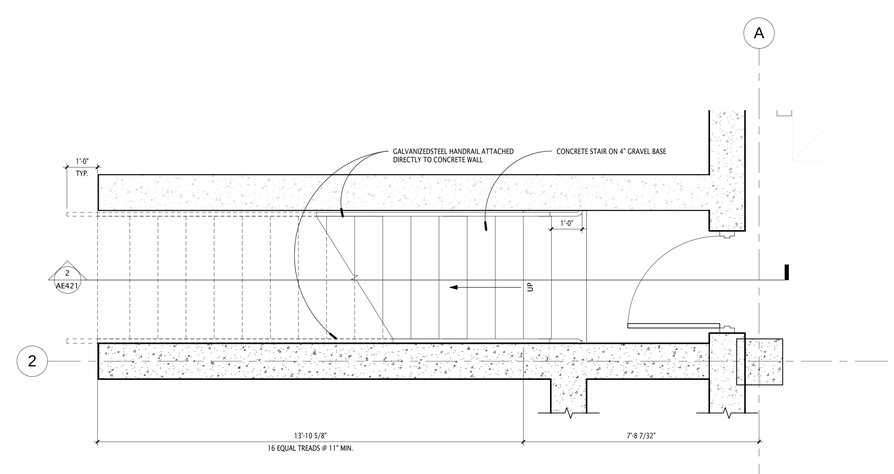
4 AE421 METAL PAN - TOP OF LANDING
1 1/2" = 1'-0"



3 AE421 METAL PAN - BOTTOM OF STAIR
1 1/2" = 1'-0"



2 AE421 EXTERIOR STAIR SECTION
1/2" = 1'-0"



1 AE421 EXTERIOR STAIR PLAN
1/2" = 1'-0"

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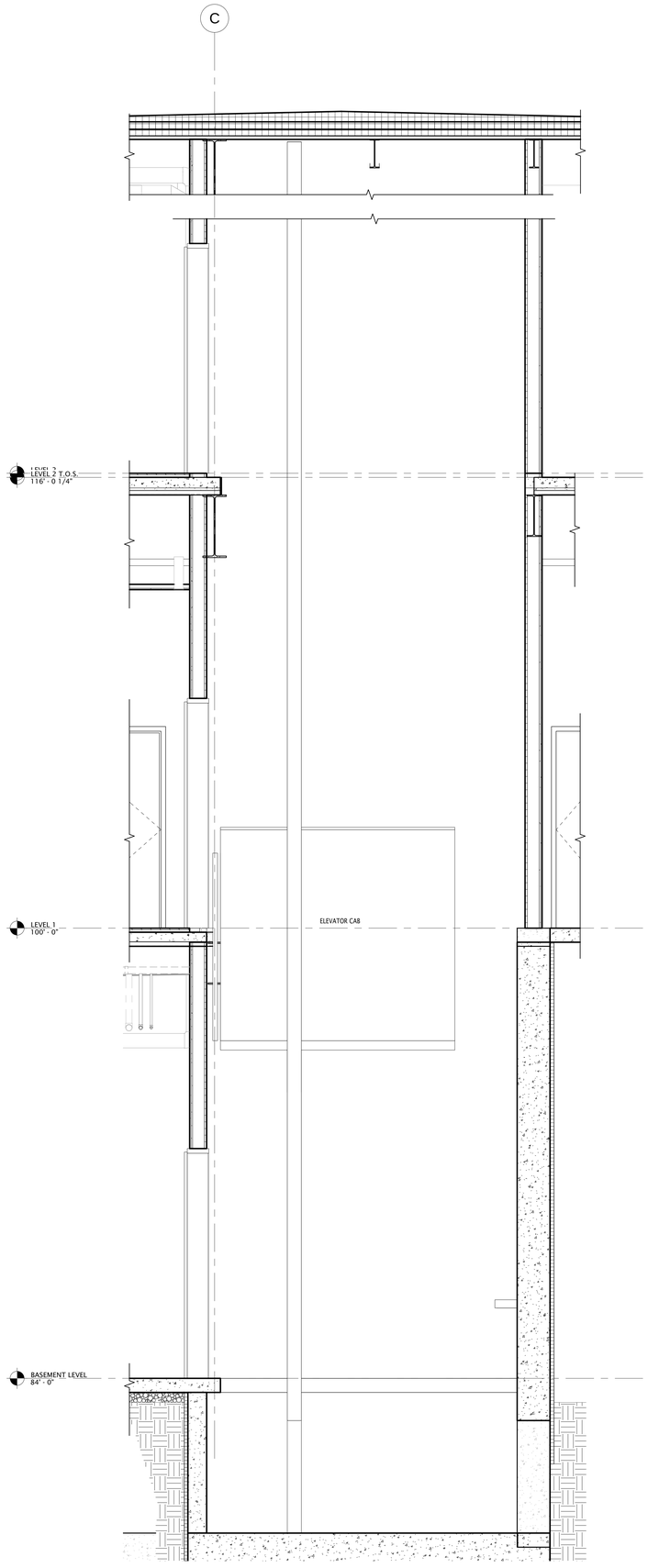
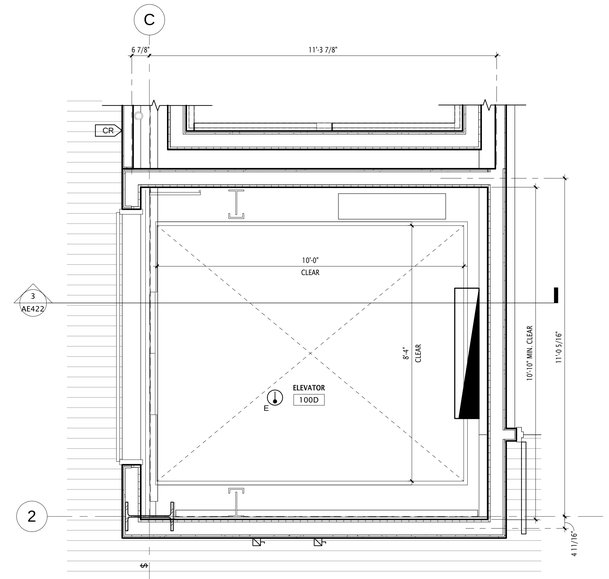
VERTICAL CIRCULATION
PLANS, SECTIONS & DETAILS

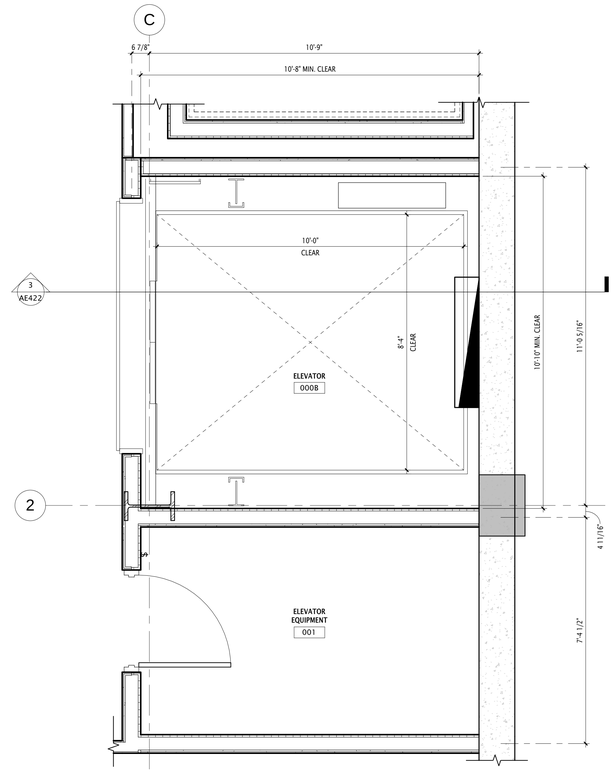
AE421



3 AE422 ELEVATOR SECTION
1/2" = 1'-0"



2 AE422 LEVEL 1 / 2 ELEVATOR ENLARGED PLAN
1/2" = 1'-0"



1 AE422 BASEMENT ELEVATOR ENLARGED PLAN
1/2" = 1'-0"

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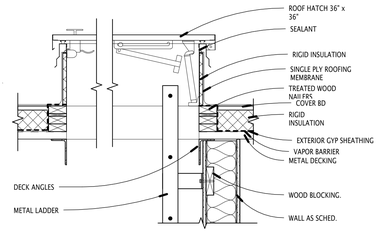
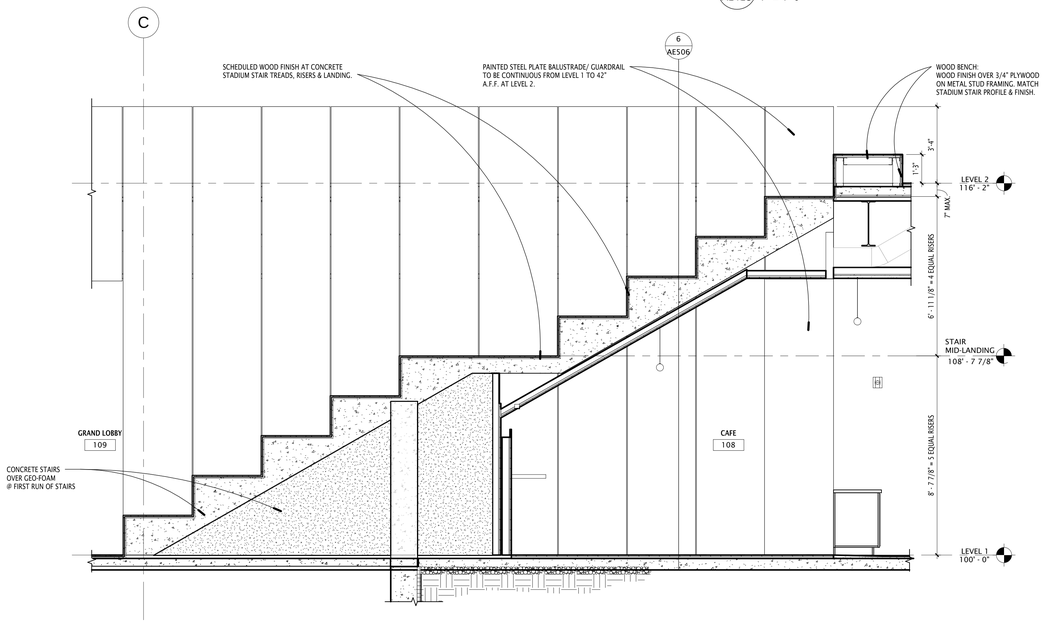
VERTICAL CIRCULATION PLANS, SECTIONS & DETAILS

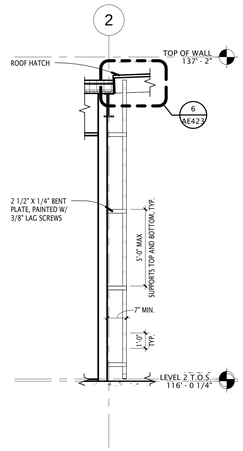
AE422



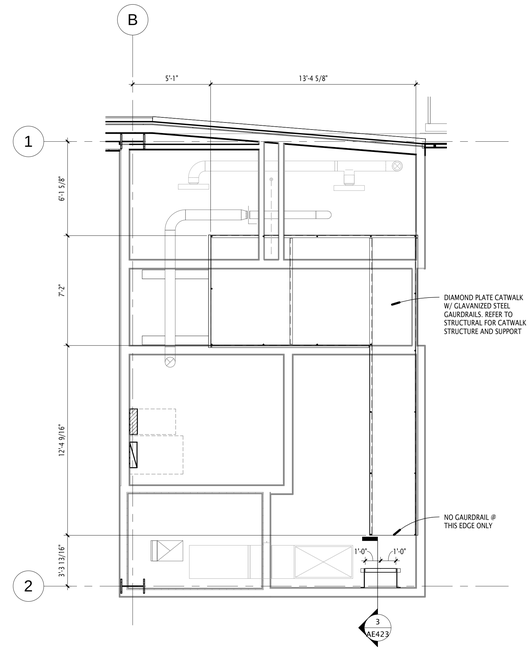
6 AE423 TYP. ROOF HATCH W/ LADDER
1" = 1'-0"



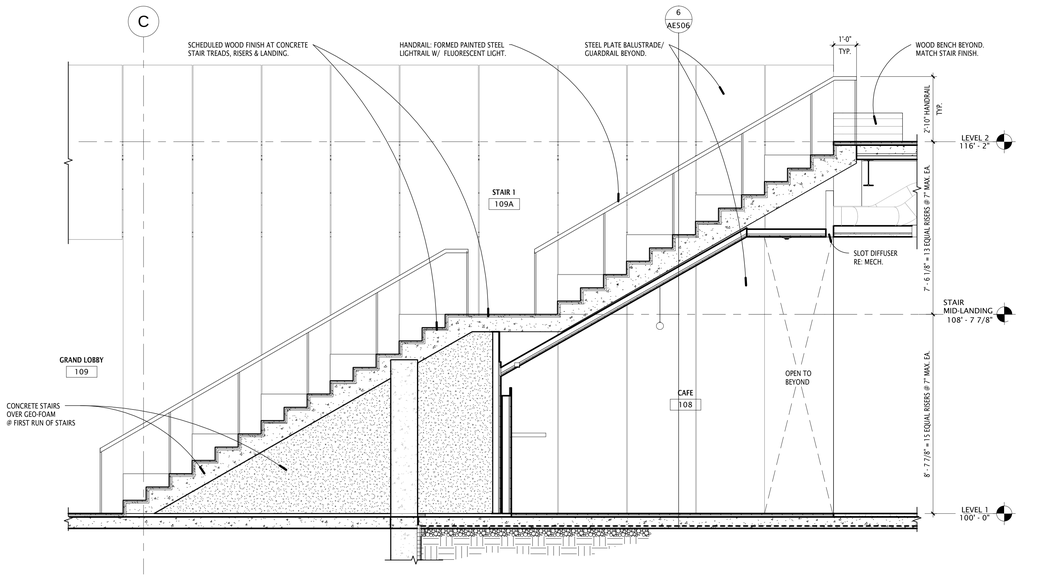
5 AE423 GRAND LOBBY SEATING SECTION
3/8" = 1'-0"



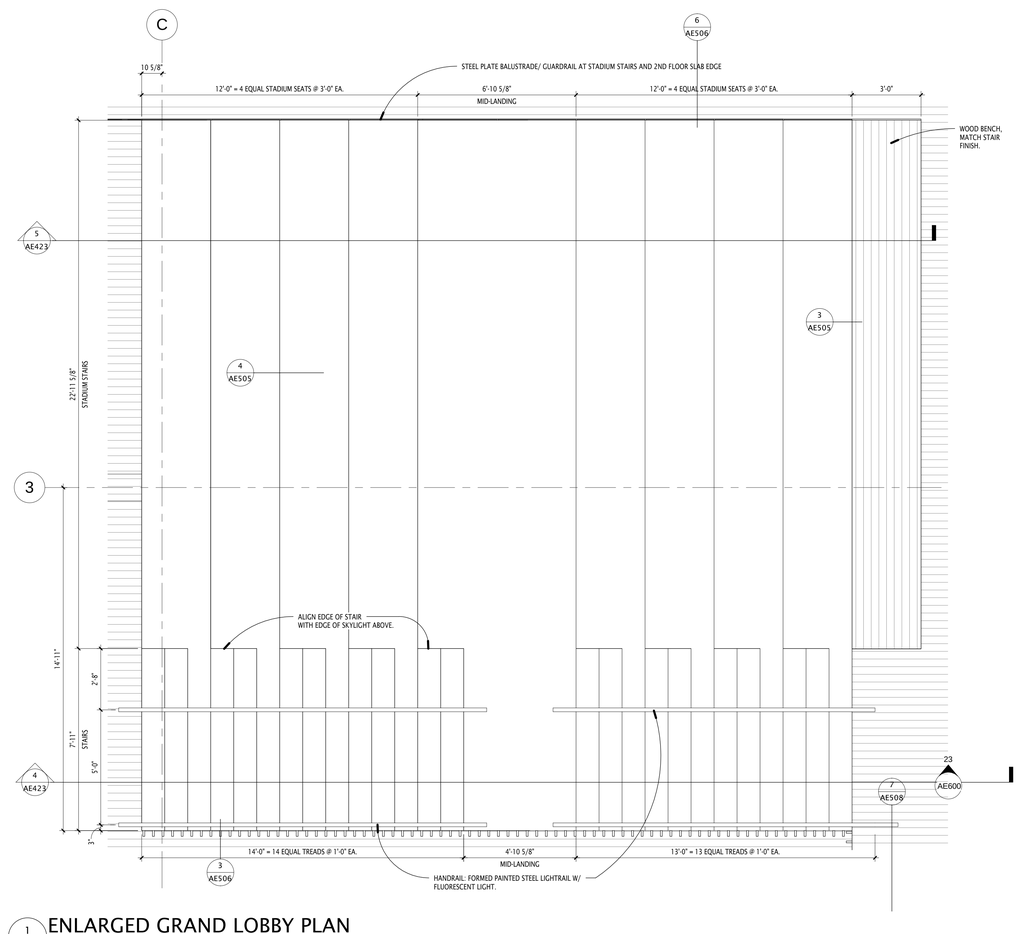
3 AE423 LADDER SECTION
1/4" = 1'-0"



2 AE423 CATWALK PLAN - MECH EQUIPMENT ACCESS
1/4" = 1'-0"



4 AE423 GRAND LOBBY STAIR SECTION
3/8" = 1'-0"



1 AE423 ENLARGED GRAND LOBBY PLAN
3/8" = 1'-0"

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REVISIONS:

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VERTICAL CIRCULATION PLANS, SECTIONS & DETAILS

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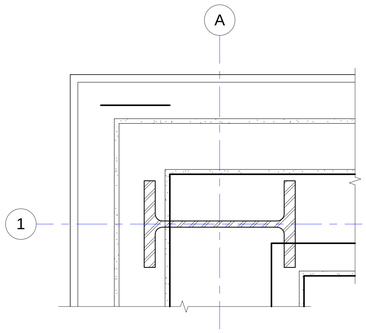
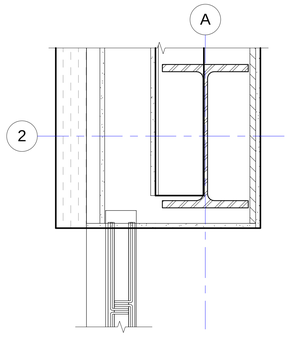
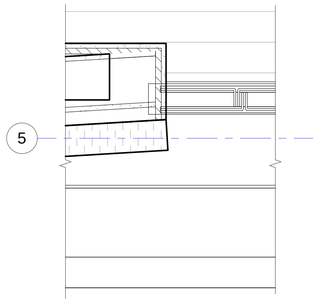


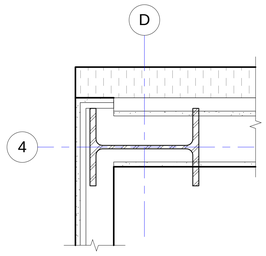
19 AE500 TYP. EXTERIOR STONE CORNER DTL 1
1 1/2" = 1'-0"



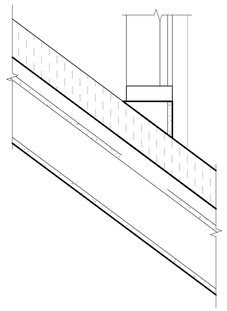
15 AE500 LVL 2 EXT. STONE/GLAZING DTL 2
1 1/2" = 1'-0"



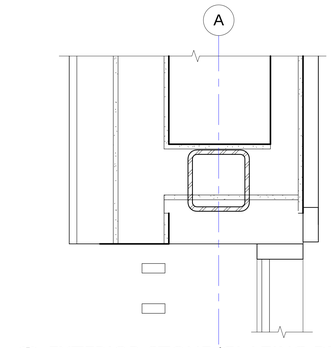
11 AE500 LVL 2 EXT. STONE/GLAZING DTL 1
1 1/2" = 1'-0"



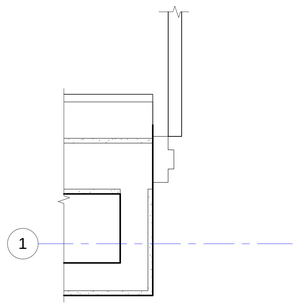
7 AE500 INT. STONE/ GYP. BD. DTL.
1 1/2" = 1'-0"



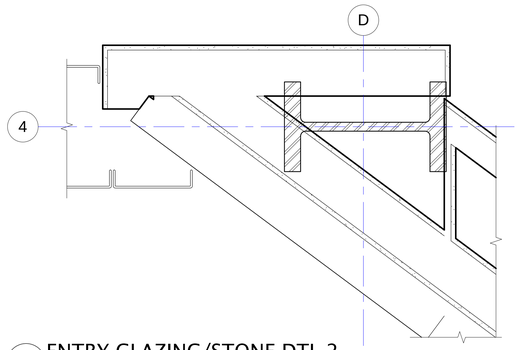
3 AE500 EXT./INT. STONE @ CURTAINWALL
1 1/2" = 1'-0"



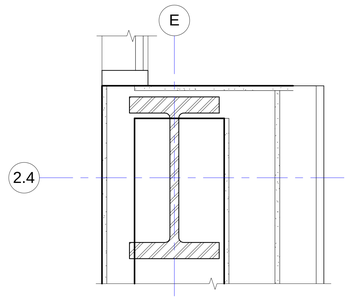
18 AE500 EXTERIOR STONE/GLAZING DTL 2
1 1/2" = 1'-0"



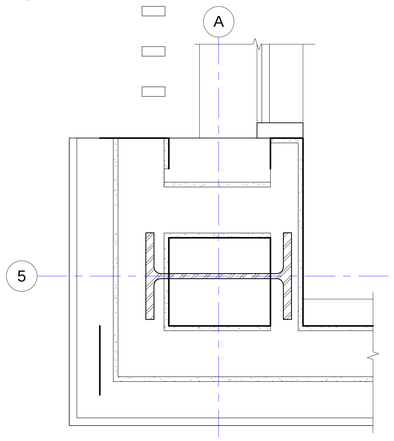
14 AE500 EXTERIOR STONE/DR JAMB DTL
1 1/2" = 1'-0"



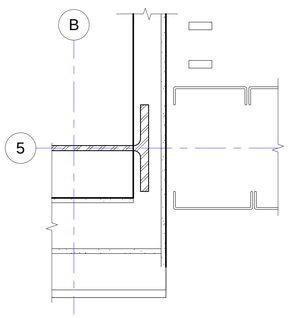
6 AE500 ENTRY GLAZING/STONE DTL 2
1 1/2" = 1'-0"



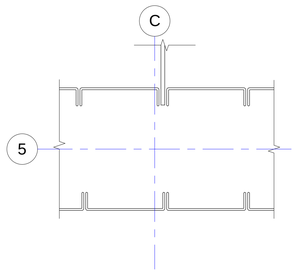
2 AE500 EXTERIOR STONE/GLAZING DTL
1 1/2" = 1'-0"



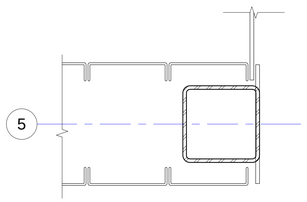
17 AE500 EXTERIOR CORNER DTL
1 1/2" = 1'-0"



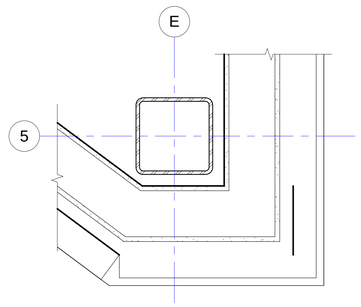
13 AE500 ENTRY GLAZING/STONE DTL 1
1 1/2" = 1'-0"



9 AE500 ENTRY DTL
1 1/2" = 1'-0"



5 AE500 ENTRY OUTSIDE CORNER DTL
1 1/2" = 1'-0"



1 AE500 EXTERIOR CORNER DTL1
1 1/2" = 1'-0"

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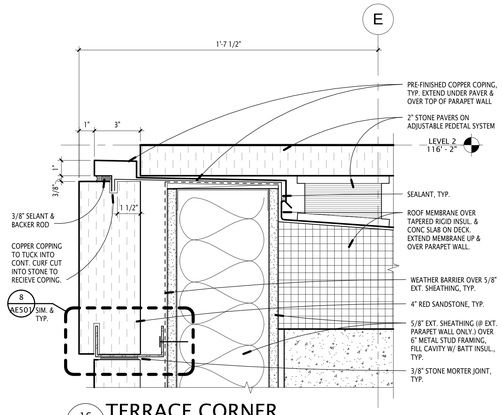
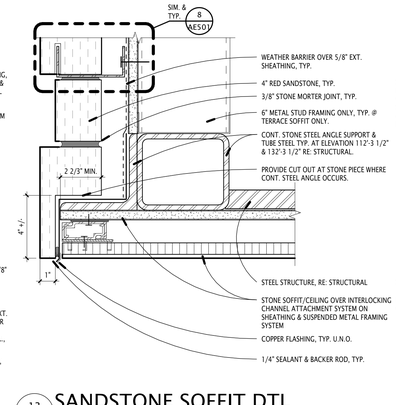
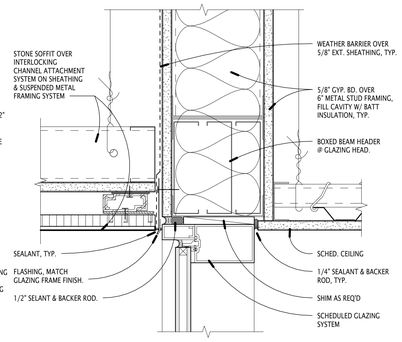


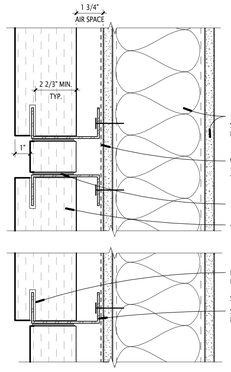
16 AE501 TERRACE CORNER
3" = 1'-0"



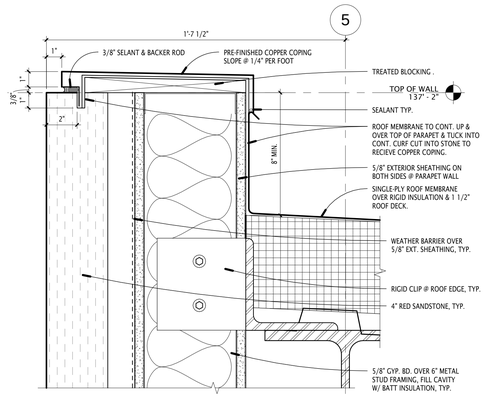
13 AE501 SANDSTONE SOFFIT DTL
3" = 1'-0"



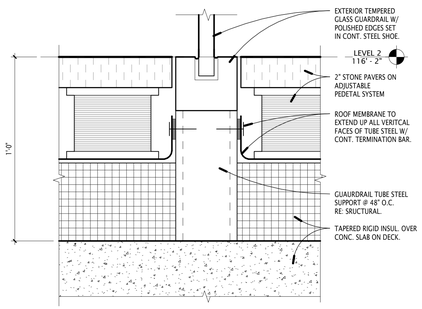
9 AE501 SOFFIT DTL @ CURTAINWALL
3" = 1'-0"



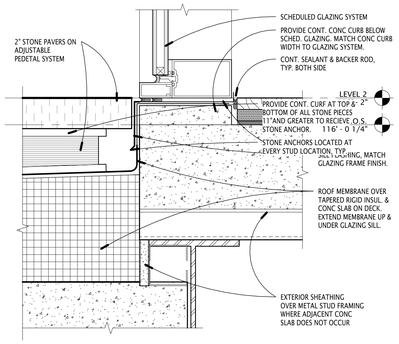
8 AE501 TYP. SANDSTONE ANCHOR DTL.
3" = 1'-0"



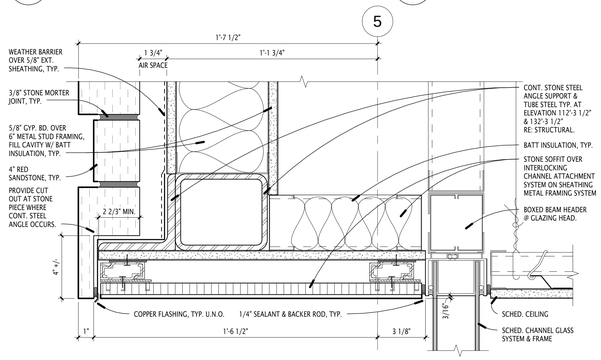
4 AE501 TYP. PARAPET DTL
3" = 1'-0"



15 AE501 TERRACE GUARDRAIL DTL
3" = 1'-0"



12 AE501 TERRACE AT CURTAINWALL
3" = 1'-0"



7 AE501 RED SANDSTONE @ SOFFIT DTL
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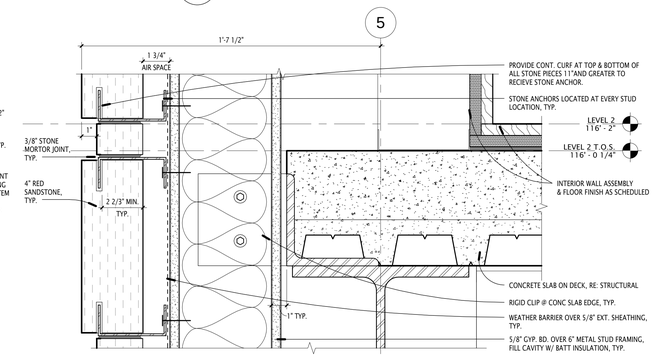

3 AE501 SECTION DTL @ LEVEL2 SLAB
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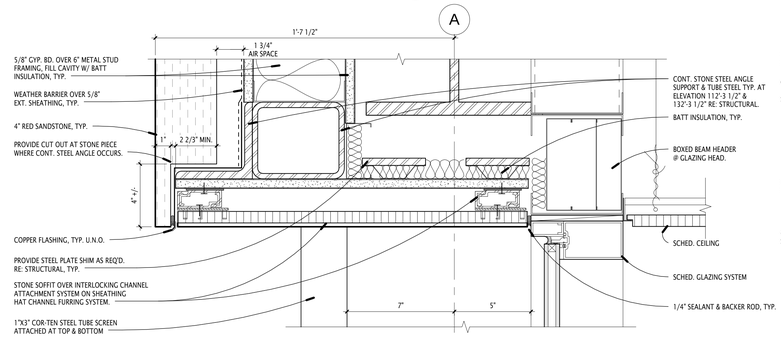

11 AE501 SANDSTONE SOFFIT @ CURTAINWALL
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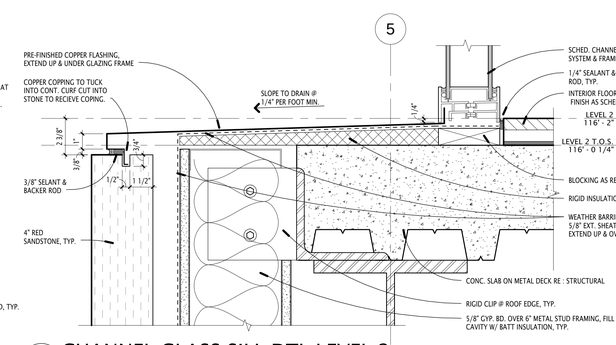

6 AE501 CHANNEL GLASS SILL DTL-LEVEL 2
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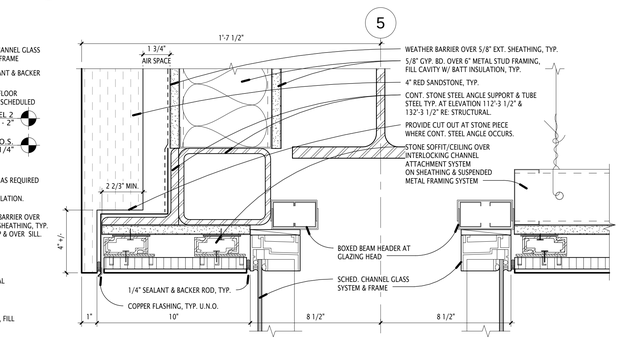
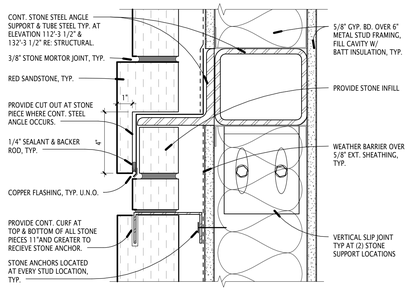
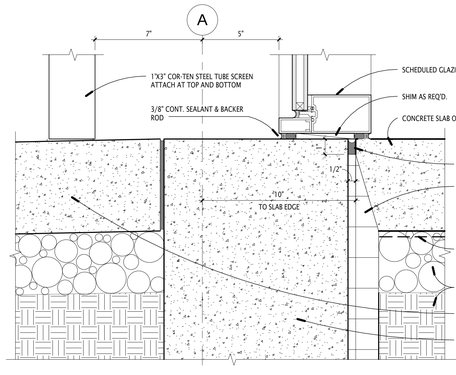


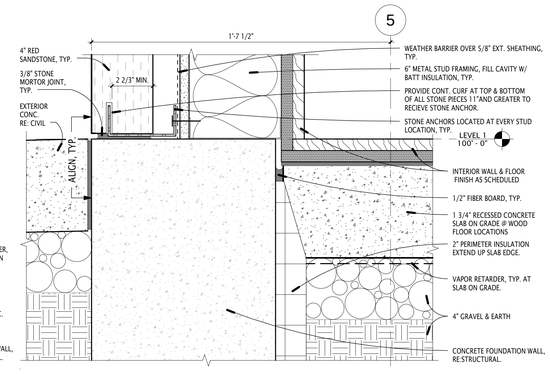
2 AE501 CEILING DTL @ LVL1 ENTRY
3" = 1'-0"



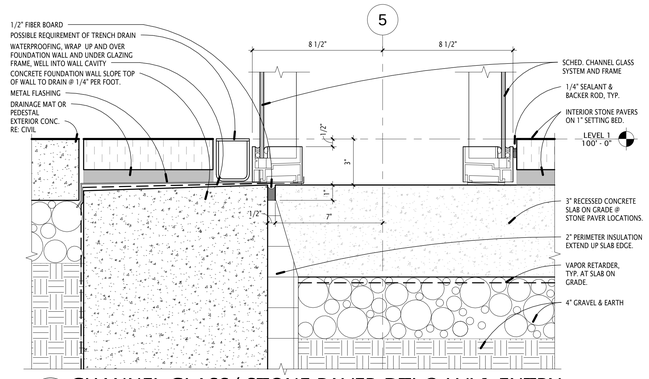
14 AE501 TYP. STONE ANGLE SUPPORT DTL
3" = 1'-0"



10 AE501 FLOOR DTL @ CHANNEL GLASS
3" = 1'-0"



5 AE501 TYP. SECTION DTL @ LVL 1 SLAB
3" = 1'-0"



1 AE501 CHANNEL GLASS/ STONE PAVER DTL@ LVL1 ENTRY
3" = 1'-0"

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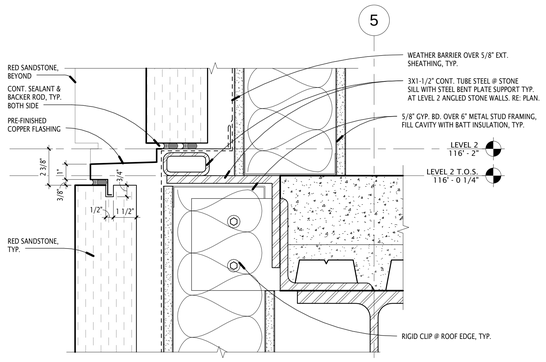
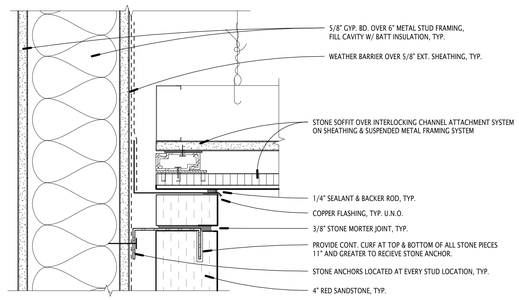


4 AE502 STONE WALL DTL @ ANGLE WALLS
3" = 1'-0"



3 AE502 TYP. STONE WALL/ SOFFIT DTL
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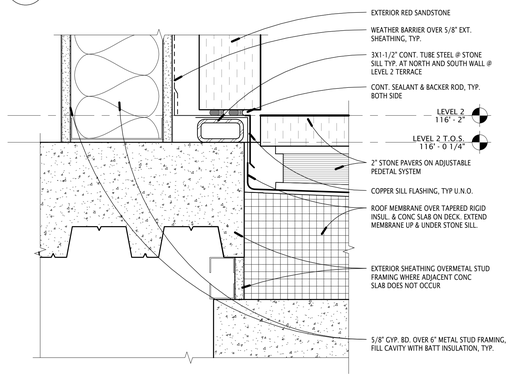
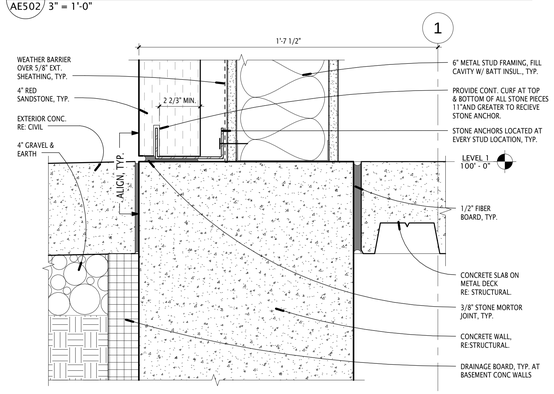


2 AE502 STONE WALL/PAVER DTL @ TERRACE
3" = 1'-0"



1 AE502 TYP. LEVEL 1 SLAB EDGE DTL @ BASEMENT
3" = 1'-0"

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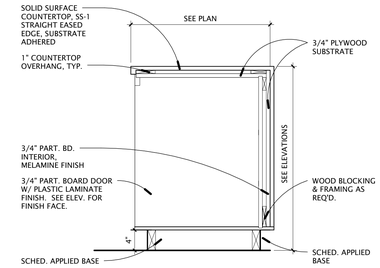
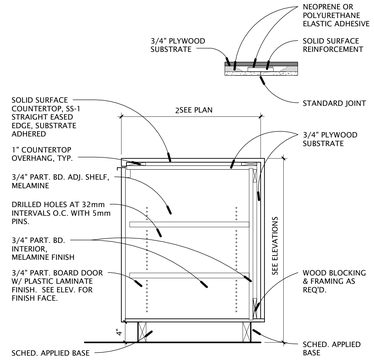
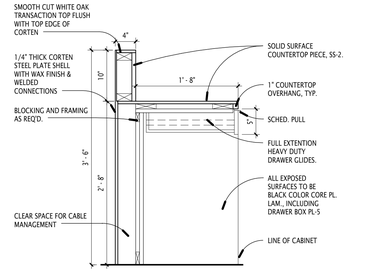


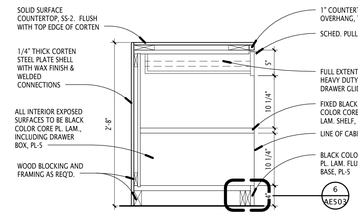
19 AE503 BASE CABINET SOLID SURFACE OPEN
1" = 1'-0"



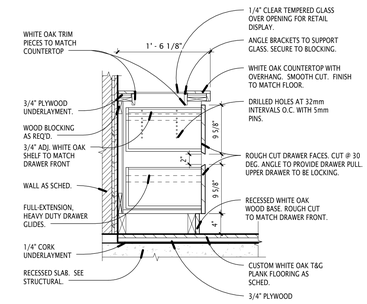
13 AE503 BASE CABINET SOLID SURFACE1
1" = 1'-0"



12 AE503 FRONT DESK W/ DRAWER 3
1" = 1'-0"



8 AE503 FRONT DESK - OPEN SHELVES
1" = 1'-0"



4 AE503 RETAIL STORAGE W/ DISPLAY DTL
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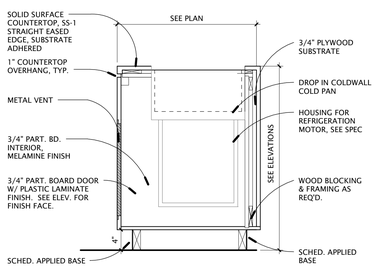
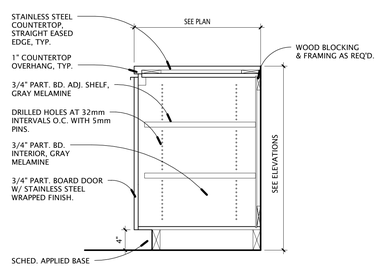
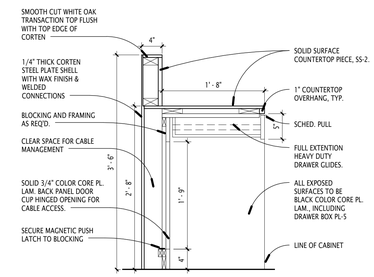


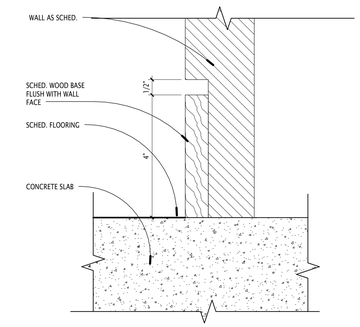
17 AE503 BASE CABINET COLD PAN DETAIL
1" = 1'-0"



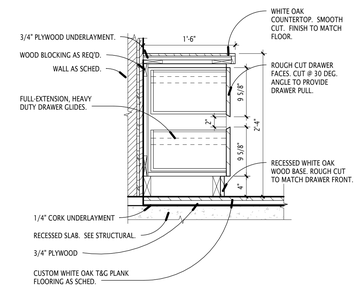
14 AE503 BASE CABINET STAINLESS STEEL DETAIL
1" = 1'-0"



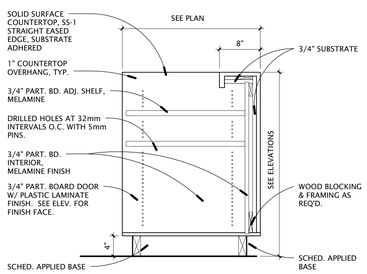
11 AE503 FRONT DESK W/ DRAWER 2
1" = 1'-0"



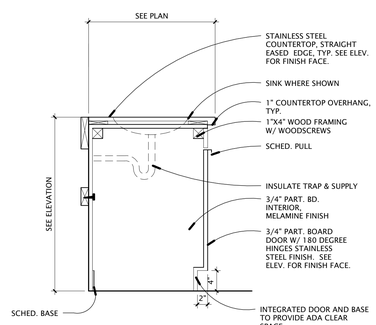
7 AE503 FLUSH WOOD BASE DTL
6" = 1'-0"



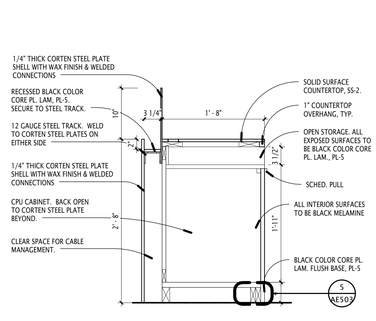
3 AE503 RETAIL STORAGE DTL
1" = 1'-0"



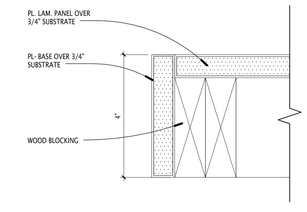
16 AE503 BASE CABINET SOLID SURFACE OPEN SHELVES
1" = 1'-0"



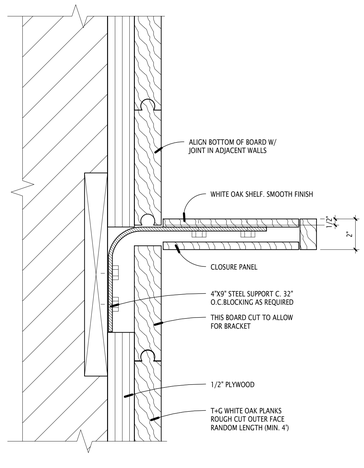
15 AE503 ADA SINK BASE
1" = 1'-0"



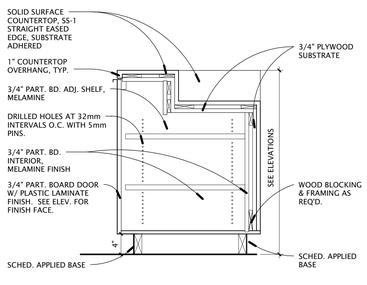
10 AE503 FRONT DESK W/ CPU CABINET
1" = 1'-0"



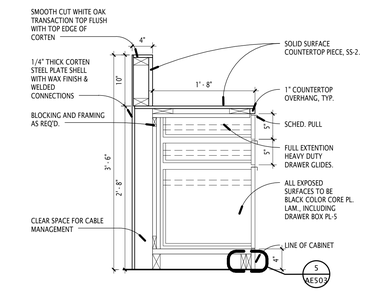
6 AE503 FLUSH BASE @ OPEN SHELVES
6" = 1'-0"



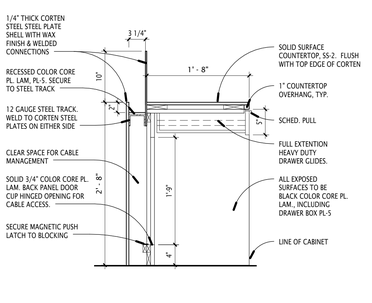
1 AE503 RETAIL WOOD SHELVES DTL
3" = 1'-0"



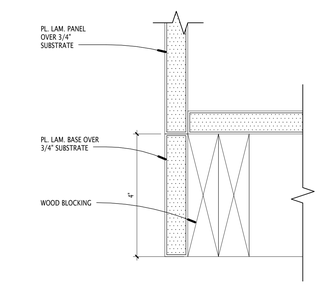
18 AE503 BASE CABINET SOLID SURFACE2
1" = 1'-0"



2 AE503 FRONT DESK W/ DRAWERS
1" = 1'-0"



9 AE503 FRONT DESK OPEN W/ DRAWER 1
1" = 1'-0"



5 AE503 TYP. MILLWORK FLUSH BASE DTL
6" = 1'-0"

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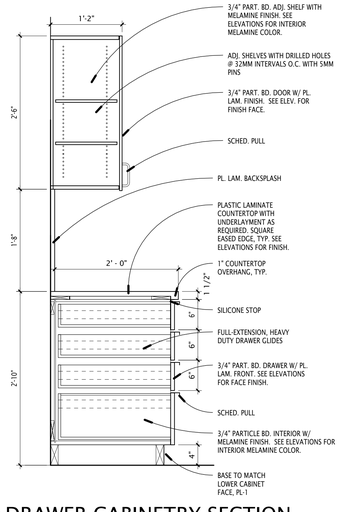
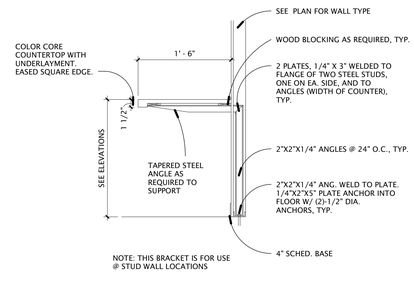


2 AE504 DRAWER CABINETRY SECTION
1" = 1'-0"



1 AE504 TYPICAL COUNTER DETAIL
1" = 1'-0"

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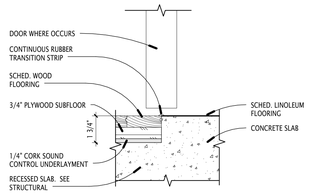
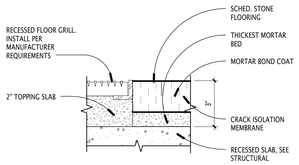
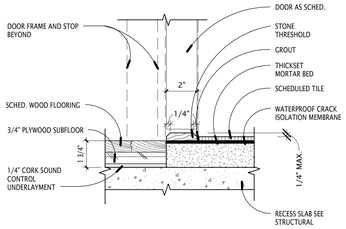


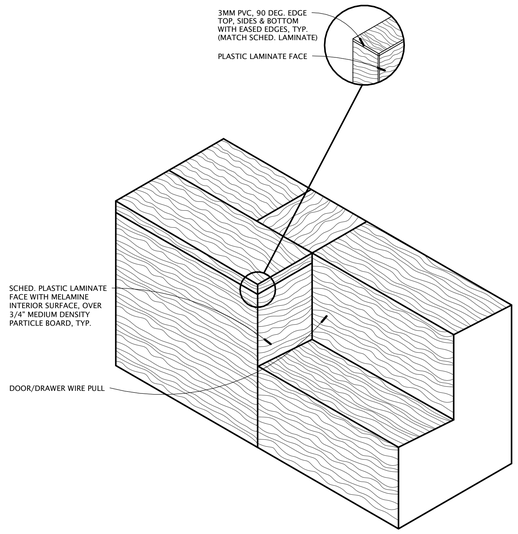
8 AE505 WD - LN
3" = 1'-0"



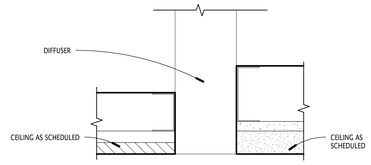
14 AE505 ENTRY GRILL -SANDSTONE
3" = 1'-0"



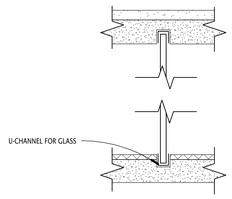
12 AE505 WD - PMT W/ THRESHOLD
3" = 1'-0"



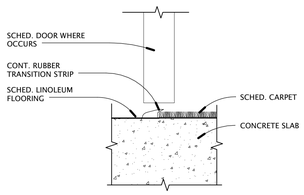
13 AE505 TYP. RISER/TREAD DETAIL
3" = 1'-0"



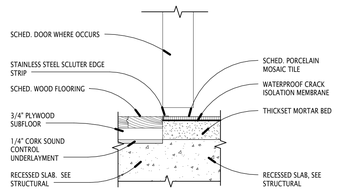
3 AE505 DIFFUSER DETAIL
3" = 1'-0"



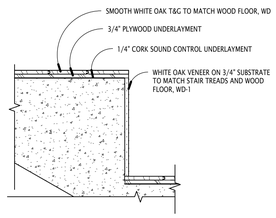
2 AE505 CHANNEL GLASS DETAIL
3" = 1'-0"



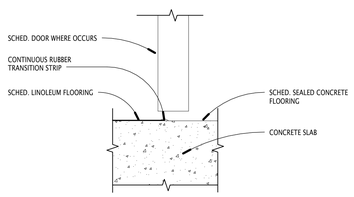
11 AE505 CP - LN
3" = 1'-0"



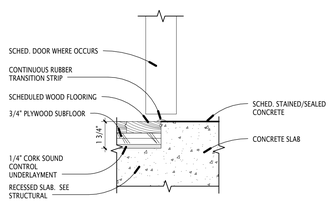
7 AE505 WD - PMT
3" = 1'-0"



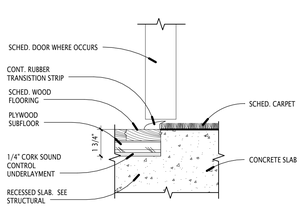
4 AE505 STAIR TREAD DETAIL
1" = 1'-0"



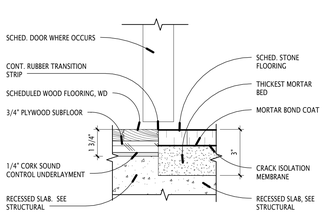
10 AE505 LN - SC
3" = 1'-0"



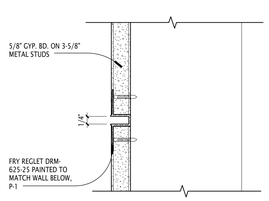
6 AE505 WD - SC / SSC
3" = 1'-0"



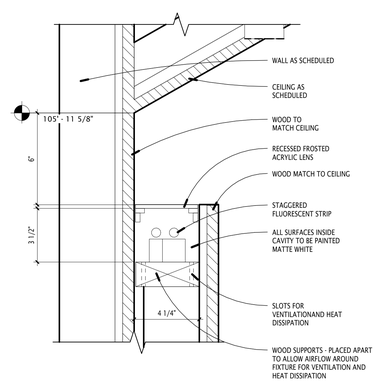
9 AE505 WD - CP
3" = 1'-0"



5 AE505 WD -SANDSTONE
3" = 1'-0"



15 AE505 GYP. REVEAL
6" = 1'-0"



1 AE505 CAFE UPLIGHT
3" = 1'-0"

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SOUTHERN UTAH MUSEUM OF ART

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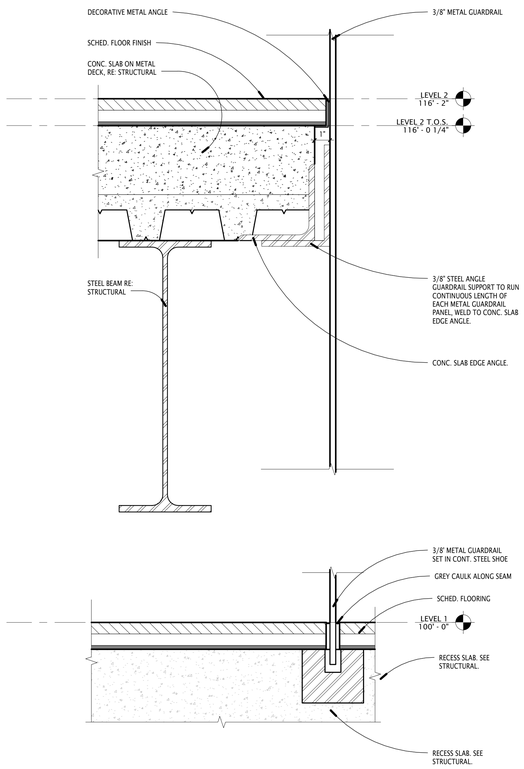
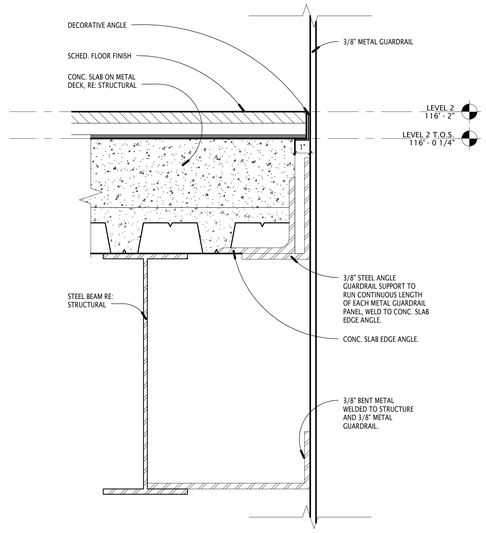
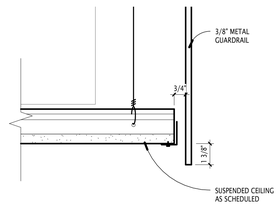


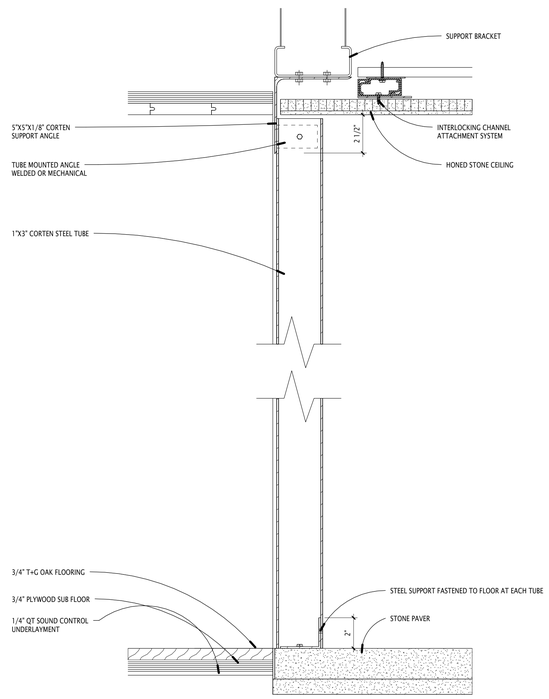
6 AE506 GUARDRAIL TO FLOOR
3" = 1'-0"



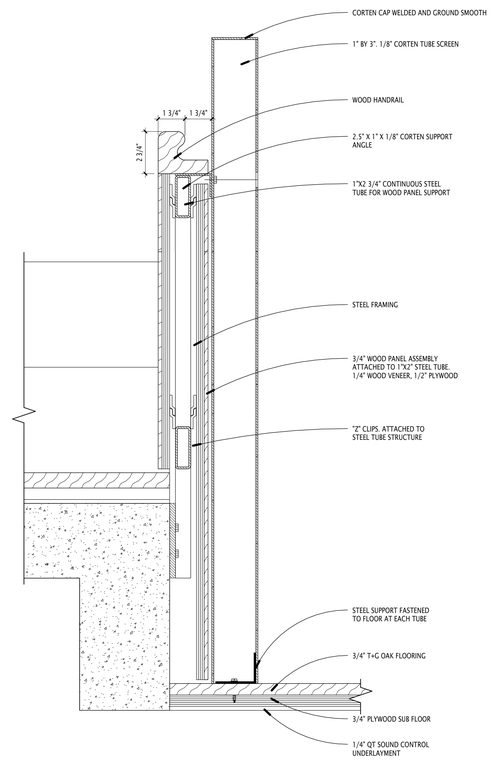
4 AE506 GUARDRAIL DETAIL
3" = 1'-0"



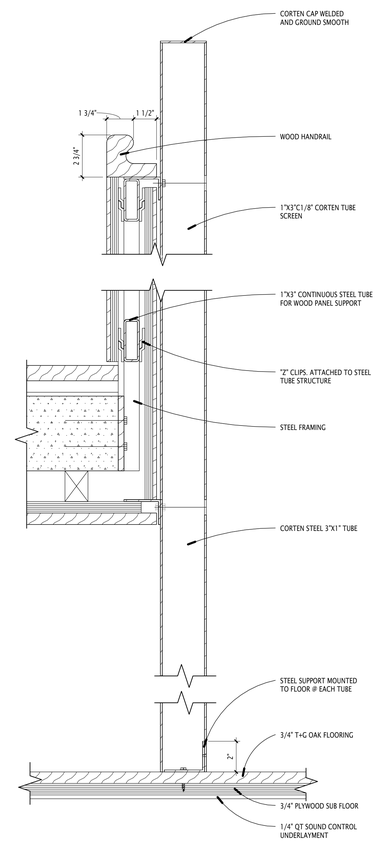
2 AE506 GUARDRAIL @ CEILING DTL
3" = 1'-0"



5 AE506 CORTEN TUBE DTL (RETAIL)
3" = 1'-0"



3 AE506 CORTEN TUBE DTL (GRAND LOBBY)
3" = 1'-0"



1 AE506 CORTEN TUBE DTL (CAFE)
3" = 1'-0"

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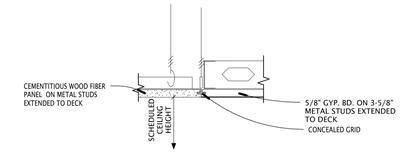
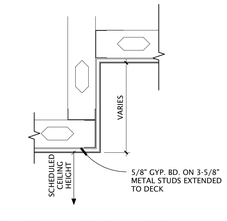
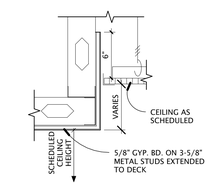


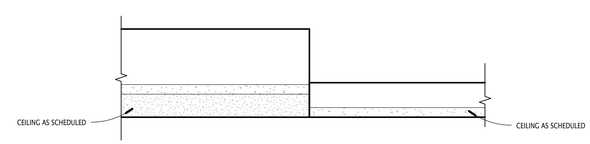
5 AE508 TECTUM TO GYP TRANSITION
1 1/2" = 1'-0"



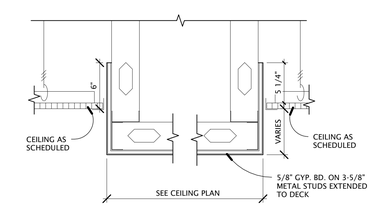
4 AE508 GYP TO GYP SOFFIT
1 1/2" = 1'-0"



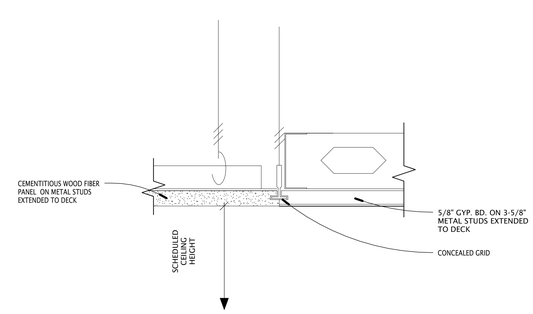
3 AE508 GYP TO LAY-IN SOFFIT
1 1/2" = 1'-0"



7 AE508 GYP TO TILE TRANSISTION
3" = 1'-0"



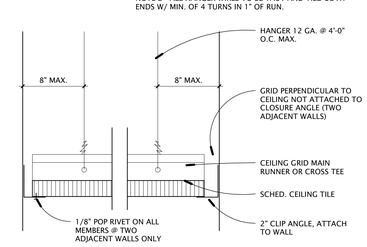
2 AE508 SOFFIT DETAIL
1 1/2" = 1'-0"



6 AE508 GYP TO STONE TRANSITION
3" = 1'-0"

NOTE 1 - ALL HANGER WIRES TO BE IN LINE WITH ATTACHED COMPONENT OR SHALL BE COUNTERSLOPED NOT GREATER THAN 1/6

NOTE 2 - ALL HANGER WIRES TO BE TAUT AND TIED BOTH ENDS W/ MIN. OF 4 TURNS IN 1" OF RUN.



1 AE508 TYP. CEILING DETAIL - CLIP ANGLE
1 1/2" = 1'-0"

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GLAZING LEGEND

A	1" CLEAR TEMPERED
B	1" CLEAR
C	1/2" CLEAR TEMPERED
D	1/2" CLEAR
E	1/4" CLEAR TEMPERED
F	1/4" CLEAR
G	1/4" TRANSLUCENT GLASS TEMPERED

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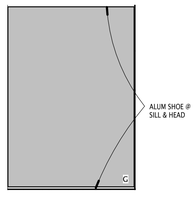
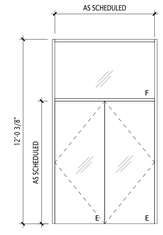


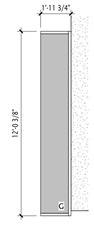
23 AE600 SF10 1/4" = 1'-0"

22 AE600 SF9 1/4" = 1'-0"

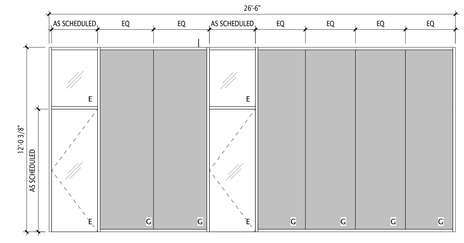


21 AE600 SF8 1/4" = 1'-0"

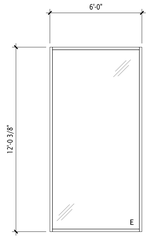
20 AE600 SF7 1/4" = 1'-0"



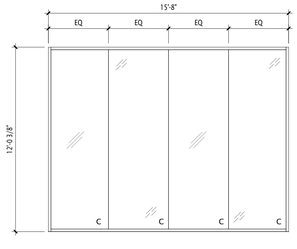
19 AE600 SF6 1/4" = 1'-0"



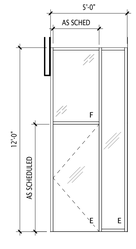
18 AE600 SF5 1/4" = 1'-0"



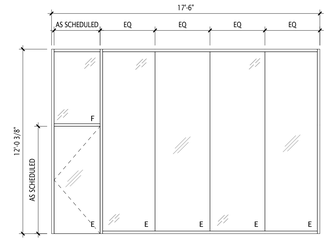
17 AE600 SF4 1/4" = 1'-0"



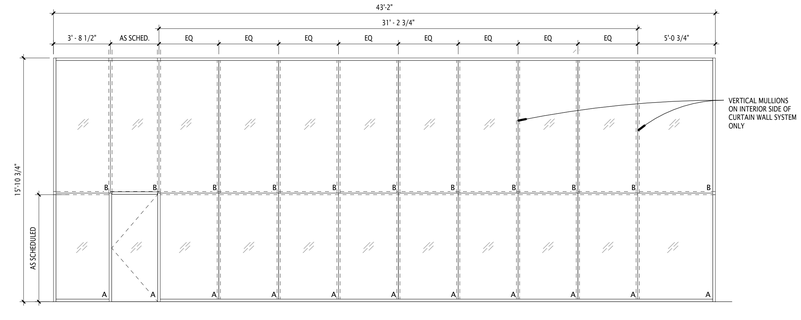
16 AE600 SF3 1/4" = 1'-0"



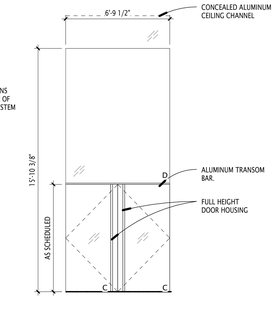
15 AE600 SF2 1/4" = 1'-0"



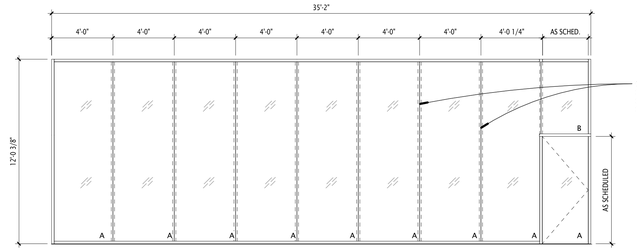
14 AE600 SF1 1/4" = 1'-0"



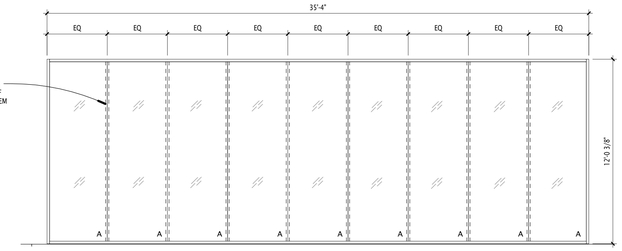
13 AE600 CW3 1/4" = 1'-0"



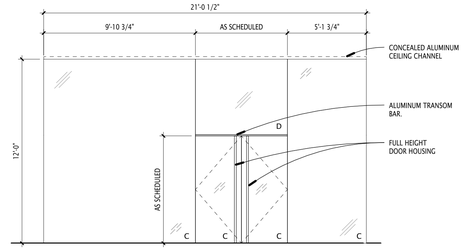
12 AE600 FG2 1/4" = 1'-0"



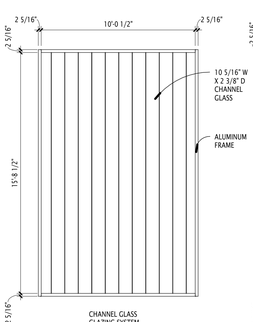
11 AE600 CW2 1/4" = 1'-0"



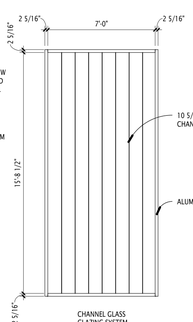
10 AE600 CW1 1/4" = 1'-0"



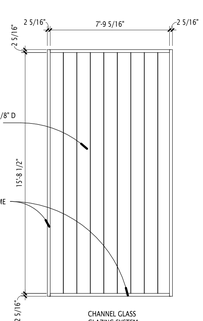
9 AE600 FG1 1/4" = 1'-0"



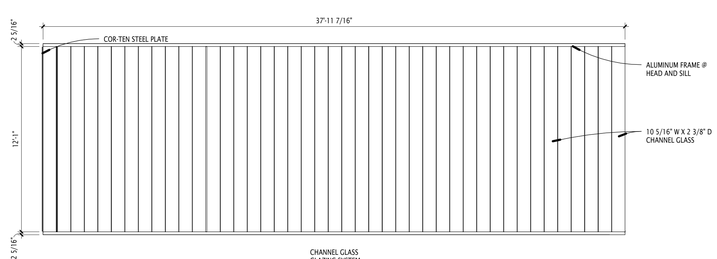
8 AE600 CG5 1/4" = 1'-0"



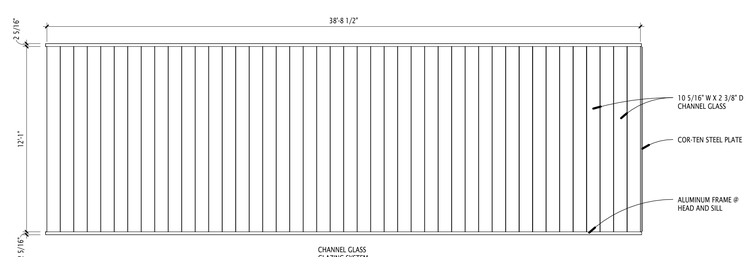
7 AE600 CG4 1/4" = 1'-0"



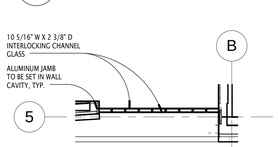
6 AE600 CG3 1/4" = 1'-0"



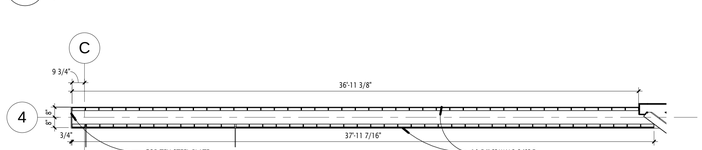
5 AE600 CG2 1/4" = 1'-0"



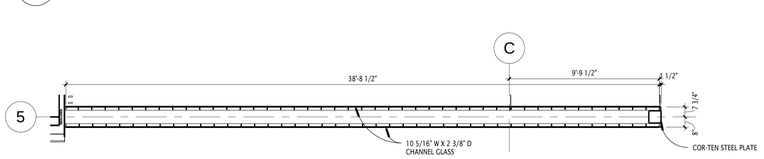
4 AE600 CG1 1/4" = 1'-0"



3 AE600 CG3 (CG4 & CG5 SIM.) 1/4" = 1'-0"



2 AE600 CG2 1/4" = 1'-0"



1 AE600 CG1 1/4" = 1'-0"

SOUTHERN UTAH MUSEUM OF ART

351 WEST UNIVERSITY BOULEVARD
CEDER CITY, UT 84720

Division of Facilities Construction Management, Southern Utah University

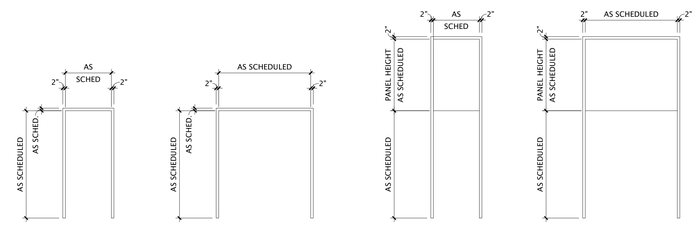
DRAWN BY:	Author
CHECKED BY:	Checker
OWNER PROJECT NO.:	
GSBS PROJECT NO.:	2010.084.00
ISSUED DATE:	05/16/2012

WINDOW & FRAME TYPES / GLAZING TYPES

AE600

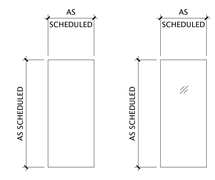
DOOR SCHEDULE

Door Number	DOOR										FRAME							Panel Height	Remarks
	Panels	Width	Height	Thickness	Fire Rating	Type	Material	Glazing	Finish	Hardware	Head Height	Type	Material	Rating	Depth	Glazing	Finish		
000AA	SNGL	3' - 0"	7' - 0"	1 3/4"	2 HR	D1	HM	-	PNT		2"	F1	HM	2 HR	5 3/4"	-	PNT		
001A	SNGL	3' - 0"	7' - 0"	1 3/4"	2 HR	D1	HM	-	PNT		2"	F1	HM	2 HR	5 3/4"	-	PNT		
002A	PR	6' - 0"	7' - 0"	1 3/4"		D1	HM	-	PNT		2"	F2	HM		5 3/4"	-	PNT		
003A	PR	6' - 0"	7' - 0"	1 3/4"		D1	HM	-	PNT		2"	F2	HM		5 3/4"	-	PNT		
004A	PR	6' - 0"	7' - 0"	1 3/4"		D1	HM	-	PNT		2"	F2	HM		5 3/4"	-	PNT		
004AA	SNGL	3' - 0"	7' - 0"	1 3/4"		D1	HM	-	PNT		2"	F1	HM		5 3/4"	-	PNT		
004B	SNGL	3' - 0"	7' - 0"	1 3/4"		D1	HM	-	PNT		2"	F1	HM		5 3/4"	-	PNT		
004C	SNGL	3' - 0"	6' - 8"	1 3/4"		D1	HM	-	PNT		2"	F1	HM		5 3/4"	-	PNT		
005A	PR	8' - 0"	7' - 0"	1 3/4"		D1	HM	-	PNT		2"	F2	HM		5 3/4"	-	PNT		
006A	SNGL	3' - 0"	7' - 0"	1 3/4"		D1	HM	-	PNT		2"	F1	HM		5 3/4"	-	PNT		
100AA	PR	6' - 0"	7' - 0"			D5	GLASS	T	-		0"	FG1	ALUM		0"		PRE		
100AB	PR	6' - 0"	7' - 0"			D5	GLASS	T	-		0"	FG1	ALUM		0"		PRE		
100BA	PR	8' - 0"	7' - 0"	1 3/4"		D1	HM	-	PNT		2"	F2	HM		5 3/4"	-	PNT		
100CA	SNGL	3' - 0"	7' - 0"	1 3/4"	2 HR	D1	HM	-	PNT		2"	F1	HM	2 HR	5 3/4"	-	PNT		
103A	SNGL	3' - 0"	7' - 0"			D5	GLASS	T	-		0"	SF2	ALUM		0"		PRE		
103AA	SNGL	3' - 0"	7' - 0"			D5	GLASS	T	-		0"	SF1	ALUM		0"		PRE		
103BA	SNGL	3' - 0"	7' - 0"	1 3/4"		D1	HM	-	PNT		2"	F3	HM		5 3/4"	-	PNT	2' - 10"	
104A	PR	9' - 8"	7' - 0"	1 3/4"		D1	HM	-	PNT		2"	F2	HM		6"	-	PNT	1' - 10"	
104AA	PR	8' - 0"	7' - 0"	1 3/4"		D1	HM	-	PNT		2"	F2	HM		5 3/4"	-	PNT		
104BA	SNGL	3' - 0"	7' - 0"	1 3/4"		D1	HM	-	PNT		2"	F1	HM		5 3/4"	-	PNT		
104CA	SNGL	3' - 0"	7' - 0"	1 3/4"		D1	HM	-	PNT		2"	F1	HM		5 3/4"	-	PNT		
105A	SNGL	3' - 0"	7' - 0"	1 3/4"		D1	HM	-	PNT		2"	F3	HM		5 3/4"	-	PNT	1' - 10"	
105AA	SNGL	3' - 0"	7' - 0"	1 3/4"		D1	HM	-	PNT		2"	F1	HM		5 3/4"	-	PNT		
105BA	SNGL	3' - 0"	7' - 0"	1 3/4"		D1	HM	-	PNT		2"	F1	HM		5 3/4"	-	PNT		
105CA	SNGL	3' - 0"	7' - 0"	1 3/4"		D1	HM	-	PNT		2"	F1	HM		5 3/4"	-	PNT		
106A	SNGL	3' - 0"	7' - 0"			D5	GLASS	T	-		0"	CW2	ALUM		0"		PRE		
106AA	SNGL	3' - 0"	8' - 0"			D5	GLASS	T	-		0"		ALUM		0"		PRE		
106B	PR	6' - 6"	8' - 0"			D5	ALUM	T	-		0"	SF8	ALUM		0"		PRE		
106BA	SNGL	3' - 0"	8' - 0"			D5	GLASS	T	-		0"		ALUM		0"		PRE		
107AA	SNGL	3' - 0"	7' - 0"	1 3/4"		D1	HM	-	PNT		2"	F3	HM		5 3/4"	-	PNT	1' - 10"	
107BA	SNGL	1' - 8"	7' - 0"	1 3/4"		D1	HM	-	PNT		2"	F1	HM		5 3/4"	-	PNT		
107CA	SNGL	3' - 0"	7' - 0"	1 3/4"		D1	HM	-	PNT		2"	F3	HM		8 1/4"	-	PNT	1' - 10"	
200A	SNGL	3' - 0"	7' - 0"			D5	GLASS	T	-		0"		ALUM		0"		PRE		
200BA	SNGL	3' - 0"	7' - 0"	1 3/4"	2 HR	D1	HM	-	PNT		2"	F1	HM	2 HR	8 1/4"	-	PNT		
200BB	SNGL	3' - 0"	7' - 0"	1 3/4"	2 HR	D1	HM	-	PNT		2"	F1	HM	2 HR	8 1/4"	-	PNT		
205A	SNGL	3' - 0"	7' - 0"	1 3/4"		D1	HM	-	PNT		4"	F1a	HM		8 1/4"	-	PNT		
206A	SNGL	3' - 0"	7' - 0"	1 3/4"		D1	HM	-	PNT		4"	F1a	HM		8 1/4"	-	PNT		
207A	SNGL	3' - 0"	7' - 0"	1 3/4"		D1	HM	-	PNT		2"	F1	HM		8 1/4"	-	PNT		
208A	SNGL	3' - 0"	7' - 0"	1 3/4"		D1	HM	-	PNT		2"	F1	HM		8 1/4"	-	PNT		
209A	PR	6' - 9 1/2"	7' - 0"			D5	GLASS	T	-		0"	FG1	ALUM		0"		PRE		



TYPE F1 TYPE F2 TYPE F3 TYPE F4

2 AE601 SUMA FRAME TYPES
1/4" = 1'-0"



TYPE D1 TYPE D5

1 AE601 SUMA DOOR TYPES
1/4" = 1'-0"

GSBS ARCHITECTS
375 WEST 200 SOUTH
SALT LAKE CITY, UT 84101
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www.gsbsarchitects.com

COOPER JOSEPH STUDIO

REVISIONS:

SOUTHERN UTAH MUSEUM OF ART

351 WEST UNIVERSITY BOULEVARD
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Division of Facilities Construction Management, Southern Utah University

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DOOR, FRAME & WINDOW TYPES, DOOR SCHEDULE & GLAZING SCHEDULE

AE601

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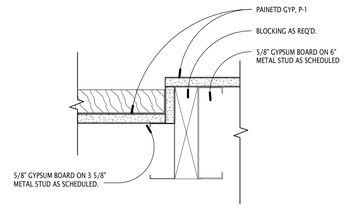
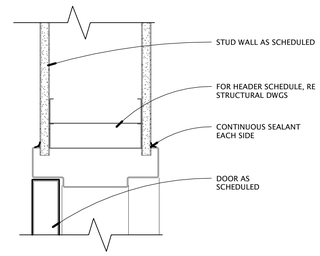
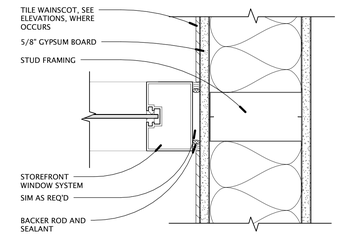
REVISIONS:



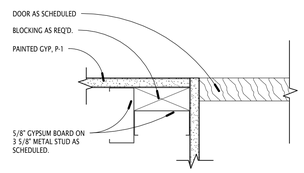
12 / AE602 SLIDING DOOR JAMB DTL 2
3" = 1'-0"



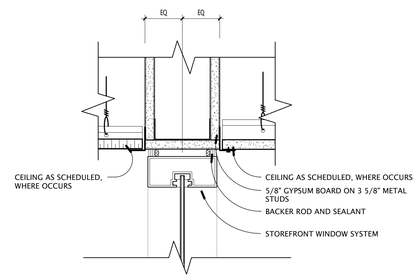
8 / AE602 TYP - HM HEAD @ GYP. BD
3" = 1'-0"



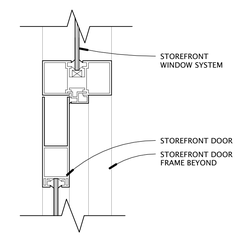
4 / AE602 STOREFRONT JAMB
3" = 1'-0"



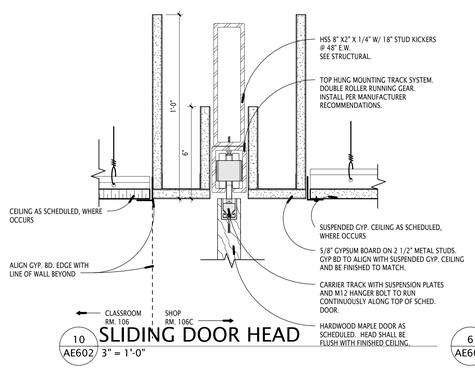
11 / AE602 SLIDING DOOR JAMB DTL 1
3" = 1'-0"



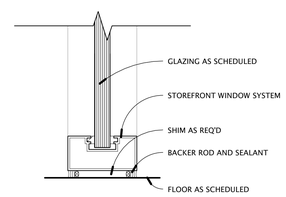
7 / AE602 STOREFRONT HEAD
3" = 1'-0"



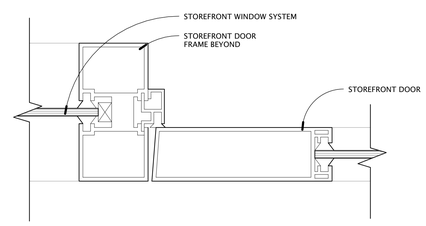
3 / AE602 STOREFRONT DOOR HEAD
3" = 1'-0"



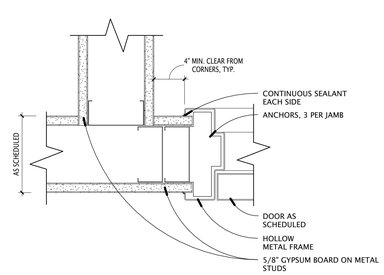
10 / AE602 SLIDING DOOR HEAD
3" = 1'-0"



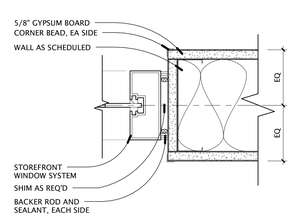
6 / AE602 STOREFRONT SILL AT FLOOR
3" = 1'-0"



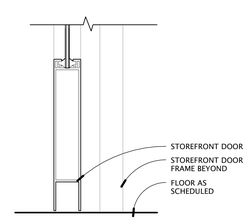
2 / AE602 STOREFRONT DOOR JAMB
6" = 1'-0"



9 / AE602 TYP - HM DOOR JAMB @ GYP BD
3" = 1'-0"



5 / AE602 STOREFRONT JAMB
3" = 1'-0"



1 / AE602 STOREFRONT DOOR SILL
3" = 1'-0"

SOUTHERN UTAH MUSEUM OF ART

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DOOR AND WINDOW DETAILS

AE602

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COOPER JOSEPH STUDIO

GENERAL STRUCTURAL NOTES

GENERAL

1. The structural notes are intended to complement the project specifications. Specific notes and details in the drawings shall govern over the structural notes and typical details.
2. Typical details and sections shall apply where specific details are not shown.
3. The contractor shall verify all site conditions and dimensions. If actual conditions differ from those shown in the contract drawings, the contractor shall immediately notify the architect/engineer before proceeding with the fabrication or construction of any affected elements.
4. Drawings shall not be scaled for the purpose of preparing shop drawings or for construction. Where dimensions on the design drawings are not provided or inferred, the contractor may scale drawings only to estimate member lengths for the purpose of bidding.
5. Changes to these contract drawings may be made only by an authorized representative of Dunn Associates, Inc. Dunn Associates, Inc. shall not be held responsible or liable for any claims arising directly or indirectly from changes made without written authorization by an authorized representative of Dunn Associates, Inc.
6. Omissions or conflicts between the contract drawings and/or specifications shall be brought to the attention of the architect/engineer before proceeding with any work involved. In case of conflict, follow the most stringent requirement as directed by the architect/engineer at no additional cost to the owner.
7. The contractor shall submit a written request to the architect/engineer before proceeding with any changes, substitutions, or modifications. Any work done by the contractor before receiving written approval will be at the contractor's risk.
8. The contractor shall coordinate with all trades any items that are to be integrated into the structural system such as openings, penetrations, mechanical and electrical equipment, etc. Sizes and locations of mechanical and other equipment that differs from those shown on the contract drawings shall be reported to the architect/engineer. Contractor shall take measures as required to insure that construction loads shall not exceed design loads for the structure.
9. The contractor shall be responsible for means, methods, techniques, sequences, and procedures in order to comply with the contract drawings and specifications. The contractor shall provide adequate shoring and bracing as required for the chosen method of erection. Shoring and bracing shall remain in place until final connections for the permanent members are completed. The building shall not be considered stable until all connections are completed. Walls shall not be considered self-supporting and shall be braced until the floor/roof system is completed.
10. Site observations by a field representative of Dunn Associates, Inc. shall not be construed as approval of construction, the procedures, nor special inspection.
11. Detailing and shop drawing production for structural elements will require information (including dimensions) contained in the architectural, structural and/or other consultants' drawings. The structural drawings shall be used in conjunction with the architectural and other consultant's drawings. See the Architectural Drawings for dimensions, doors, windows, non-bearing interior and exterior walls, elevations, slopes, stairs, curbs, drains, recesses, depressions, railings, waterproofing, finishes, chamfers, kerfs, etc.
12. The Contractor may choose to submit shop drawings and submittals for review electronically. The Contractor may do this provided a minimum of one hard copy set is submitted for review. The submittal will be stamped as received by Dunn Associates, Inc. when the hard copy is received by our office. Hard copies of small submittals need not be submitted if the Contractor receives the approval for this exception by the Engineer of Record.
13. Review of shop drawing submittals by Dunn Associates, Inc. is for general compliance only and is not intended for approval. The shop drawing review shall not relieve the contractor from the responsibility of completing the project according to the contract documents.
14. Shop drawings made from reproductions of the structural drawings will be rejected unless the contractor signs a release agreement prior to the shop drawings being reviewed. The contractor may also obtain electronic files of the plan sheets after signing a release agreement. Electronic files of the detail sheets and schedule sheets will not be made available.
15. All work shall be done in accordance with OSHA requirements. Potential conflicts between these documents and OSHA requirements shall be brought to the attention of the structural engineer before proceeding with the work.

BASIS OF DESIGN

1. Governing Building Code---------- International Building Code 2009
2. Occupancy Category ---------- III
3. Floor Live Loads
   - 3.1. Uniformly Distributed Loads
     - 3.1.1. Exhibit Space---------- 100 psf
     - 3.1.2. Lobbies & Main Floor Corridors---------- 100 psf
     - 3.1.3. Corridors Above Main Floor---------- 80 psf
     - 3.1.4. Mechanical Rooms---------- 150 psf
   - 3.2. Concentrated Loads, all areas---------- 2000 lbs
4. Roof Live Load (Not concurrent with Roof Snow Load)---------- 20 psf
5. Roof Snow Load
   - 5.1. Ground Snow Load---------- Pg = 43 psf
   - 5.2. Flat Roof Snow Load---------- Pf = 30 psf
   - 5.3. Snow Exposure Factor---------- Ce = 1.0
   - 5.4. Thermal Factor---------- Ct = 1.0
   - 5.5. Snow Load Importance Factor---------- Is = 1.25
6. Wind Load
   - 6.1. Basic Wind Speed (3 Second Gust)---------- 90 mph
   - 6.2. Wind Importance Factor---------- 1.15
   - 6.3. Wind Exposure---------- C
   - 6.4. Internal Pressure Coefficient---------- ± 0.18
7. Seismic Design Criteria
   - 7.1. Mapped Spectral Response Accelerations
     - 7.1.1. Short Period Acceleration---------- SS = 0.71
     - 7.1.2. 1-Second Acceleration---------- S1 = 0.22
   - 7.2. Spectral Response Coefficients
     - 7.2.1. Short Period Acceleration---------- SDS = 0.529
     - 7.2.2. 1-Second Acceleration---------- SD1 = 0.231
   - 7.2. Site Class (Soil Profile)---------- C
   - 7.3. Seismic Importance Factor---------- 1.25
   - 7.4. Seismic Design Category----------D
   - 7.5. Effective Structural Seismic Weight---------- W
   - 7.6. Basic Seismic Force Resisting System---------- Special Steel Moment Frames
     - 7.6.1. Response Modification Coefficient---------- R = 8
     - 7.6.2. System Overstrength Factor---------- Ωo = 3.0
     - 7.6.3. Deflection Amplification Factor---------- CD = 5.5
     - 7.6.4. Design Base Shear---------- V = Cs*W =0.083W
   - 7.7. Analysis Procedure----------Equivalent Lateral Force
8. Serviceability Criteria
   - 8.1. Interstory Seismic/Wind Drift----------Δa < 0.02h ('h' is story height)
   - 8.2. Deflection Limits----------Total----------Live/Snow
     - Floor----------L/240----------L/360
     - Roof----------L/240----------L/360
     - Perimeter----------____----------L/600(3/8" max)

FOUNDATION

1. Soils Report by:----------Applied Geotechnical Engineering Consultants
2. Report Number & Date:---------- Project #2101071 on June 10, 2011
3. Soil Bearing Pressure:----------See tables below

Cont. Footing width "B" (ft)	Required Structural Fill	Allowable Bearing Pressure (psf)
B ≤ 2	1'-0"	2000
2 < B ≤ 3	2'-0"	2500

Spot Footing width "B" (ft)	Required Structural Fill	Allowable Bearing Pressure (psf)
B ≤ 2	1'-0"	2000
2 < B ≤ 5	1'-0"	2500
5 < B ≤ 7	2'-0"	3000
7 < B ≤ 8	3'-0"	3000
8 < B ≤ 9	4'-0"	3000

4. Frost Protection:----------30 inches minimum
5. Lateral Soil Pressure Fluid Equivalent Density:
   - 5.1. Active----------40 pcf (retaining walls)
   - 5.2. At Rest----------60 pcf (rigid foundation walls)
   - 5.3. Passive----------300 pcf
6. Coefficient of Friction----------0.4
7. The soils engineer shall review all excavations and fill placement prior to placing concrete.

EARTHWORK

1. This is a unique site with collapsible soils and overexcavation requirements set forth by the soils engineer. Consult the project specifications and soils report for earthwork and structural fill requirements. The soils engineer shall review all excavations and fill placement prior to placing concrete.

CONCRETE

1. Concrete shall be supplied in accordance with ACI 318 and the following requirements:

Concrete Use	Comp. Strength f 'c (psi)	Exposure Classes	Cement Type [a]	Max. W/CM Ratio	Max. Flyash	Air Content [b,c]	Aggregate Size, Max.	Slump Limit [d]
Exterior Footings	4500	F1, S0, P0, C0	I, II	0.45	25%	5%	1 1/2"	4"
Interior Footings	3000	F0, S0, P0, C0	I, II	0.50	25%	1.5%	1 1/2"	5"
Mat Footings	4500	F1, S0, P0, C0	I, II	0.45	25%	5%	1 1/2"	4"
Foundation Walls	4500	F1, S0, P0, C1	I, II	0.45	25%	5%	3/4"	4"
Shear Walls	4000	F0, S0, P0, C0	I, II	0.45	25%	1.5%	3/4"	4"
Other Walls	4000	F0, S0, P0, C0	I, II	0.45	25%	1.5%	3/4"	4"
Columns	4000	F0, S0, P0, C0	I, II	0.45	25%	1.5%	3/4"	4"
Interior Slabs on Grade	3500	F0, S0, P0, C0	I, II	0.45	25%	1.5%	3/4"	5"
Normal Wt. Concrete on Steel Deck	3500	F0, S0, P0, C0	I, II	0.45	25%	1.5%	3/4"	4"
Light Wt. Concrete on Steel Deck	3000	F0, S0, P0, C0	I, II	0.45	25%	1.5%	3/4"	4"
All Site Concrete (curb, gutter, sidewalk)	5000	F3, S0, P0, C2	I, II	0.40	25%	6%	3/4"	4"
Site Retaining Walls								

Table Footnotes:

a. Cement to comply with ASTM C150. Use Type V cement where required by soils report.
b. Air content ± 1.5%, measured at point of final placement. Air-entraining admixtures shall comply with ASTM C260 (when used). Calcium chloride shall not be added to the concrete mix. Unreinforced concrete slabs on grade may have calcium chloride not exceeding one percent.
c. Air entrainment shall be adjusted for the use of admixtures and fly ash.
d. Slump limit ± 1" applies to non-plasticized concrete. Test shall be conducted prior to adding plasticizer if used.

2. Materials unless noted otherwise:
   - 2.1. Normal Weight aggregates — ASTM C33
   - 2.2. Light Weight aggregates — ASTM C330
   - 2.3. Light Weight concrete shall not exceed 110 pcf (± 3 pcf)
   - 2.4. Fly Ash, Class F Pozzolan — ASTM C618
   - 2.5. Silica Fume (2% to suspended parking slabs) — ASTM C1240
   - 2.6. Reinforcing Steel
     - 2.6.1. General — ASTM 615 Grade 60-60ksi
     - 2.6.2. Columns, Beams, Shearwalls — ASTM A706-60ksi
       ASTM A615 is permitted if mill certifications are submitted showing that actual yield strength does not exceed the specified strength by more than 18000 psi and the ratio of tensile to yield strength is greater than 1.25.
   - 2.7. Deformed Bar Anchors (DBA) — ASTM A496
   - 2.8. Headed Stud Anchors (HSA) — ASTM A108
   - 2.9. Anchor Bolts: See steel and/or wood section(s) of general notes.
   - 2.10. No aluminum conduit or product containing aluminum or any other material injurious to concrete shall be embedded in concrete.
3. Reinforce composite slabs over metal deck with 6" x 6" - W2.1/W2.1 welded wire reinforcement minimum, unless noted otherwise. Welded wire reinforcement shall be placed 1" to 1 1/2" below the top of the slab. Welded wire reinforcement may be substituted with "Fibermesh Fibers" manufactured by Propex Concrete Systems Corporation, as approved by ICC ER-4811. The rate of fiber application shall be based on ICC ER-4811. Other substitutions may be permitted if an ICC Evaluation report is submitted to and approved by the Structural Engineer.
4. The contractor shall be responsible for the design, detailing, care, placement and removal of all formwork and shores.
   - 4.1. Supporting forms and shoring shall not be removed until structural members have acquired sufficient strength to safely support their own weight and any construction load to which they may be subjected. In no case, however, shall forms and shoring be removed in less than 24 hours after concrete placement.
   - 4.2. Suspended slabs shall be re-supported after form removal until concrete reaches its 28-day specified compressive strength.
5. Reinforcement shall have the following concrete cover: — Clear Cover
   - 5.1. Cast-in-place Concrete
     - 5.1.1. Cast against and permanently exposed to earth — 3"
     - 5.1.2. Formed concrete exposed to earth or weather:
       - #6 thru #18 bars — 2"
       - #5 and smaller bars — 1 1/2"
     - 5.1.3. Concrete not exposed to weather or in contact with ground:
       - Slabs, Walls, Joists; #11 bars and smaller — 3/4"
       - Beams, Columns: Primary Reinforcement, Ties, Stirrups, Spirals — 1 1/2"
6. Construction Joints and Control Joints:
   - 6.1. Provide a beveled 2" x 4" x continuous keyway in all horizontal and vertical construction joints including between top of footing and foundation walls. In addition, all joints shall be intentionally roughened to a full amplitude of approximately 1/4".
   - 6.2. Control joints shall be installed in slabs on grade so the length to width ratio of the slab is no more than 1.25:1. Control joints shall be completed within 12 hours of concrete placement. Control joints may be installed by either:
     - 6.2.1. Saw cut with depth of 1/4 the thickness of the slab
     - 6.2.2. Tooled joints with depth of 1/4 the thickness of the slab
   - 6.3. Install construction or control joints in slabs on grade at a spacing not to exceed 30 times the slab thickness in any direction, unless noted otherwise. Construction joints shall not exceed a distance of 125'-0" on center in any direction.
7. Construction
   - 7.1. Use chairs or other support devices recommended by the CRSI to support bar and tie reinforcement bars and WWF prior to placing concrete. WWF shall be continuously supported at 36" on center maximum. Reinforcing steel for slabs on grade shall be adequately supported on precast concrete units. Lifting the reinforcing off the grade during placement of concrete is not permitted.
   - 7.2. Contractor shall coordinate placement of all openings, curbs, dowels, sleeves, conduits, bolts, inserts and other embedded items prior to concrete placement.
   - 7.3. All embeds and dowels shall be securely tied to formwork or to adjacent reinforcing prior to the placement of concrete.
   - 7.4. No pipes, ducts, sleeves, etc. shall be placed in structural concrete unless specifically detailed or approved by the structural engineer. Penetrations through walls when approved shall be built into the wall prior to concrete placement. Penetrations will not be allowed in footings or grade beams unless detailed. Piping shall be routed around these elements and footings stepped to avoid piping.
   - 7.5. Reinforcing bars shall not be welded unless specifically shown on drawings. In such cases, use only AWS standards. Do not substitute reinforcing bars for DBAs or HSAs.
   - 7.6. Top of concrete columns shall be flush (±1/4") with bottom of supported cast-in-place members.
8. Detailing:
   - 8.1. Lap splice lengths shall be detailed to comply with the "Reinforcing Bar Lap Splice Schedule" contained within the contract drawings.
     - 8.1.1. Do not splice stirrups and ties. Do not splice vertical bars in retaining walls unless specifically shown.
     - 8.1.2. Splices may be made with mechanical splices capable of 125% tension capacity of the bar being spliced. Mechanical splices shall be the positive connecting type coupler and shall meet all ACI requirements. Use "Cadweld", "Lenton" Standard Couplers, "Bar-Lock" or equal with internal protector. If mechanical splices are used, splices or couplers on adjacent bars shall be staggered a minimum of 24" apart along the longitudinal axis of the reinforcing bars.
   - 8.2. At joints provide reinforcing dowels to match the member reinforcing, unless noted otherwise.
   - 8.3. At all discontinuous control or construction slab on grade joints, provide (2) #4 x 48".

8.3. At all discontinuous control or construction slab on grade joints, provide (2) #4 x 48".

   - 8.4. Provide corner bars at intersecting wall corners using the same bar size and spacing as the horizontal wall reinforcing.
   - 8.5. All vertical reinforcing shall be doweled to footings, or to the structure below with the same size and spacing as the vertical reinforcing for the element above. Dowels extending into footings shall terminate with a 90° standard hook and shall extend to within 4" of the bottom of the footing. Footing dowels (#8 bars and smaller) with hooks need not extend more than 20" into footings.
   - 8.6. In concrete shearwalls, the horizontal wall reinforcing shall terminate at ends of walls and openings into the far end of the jamb column with a 90° standard hook plus a 6 bar diameter extension. Horizontal wall reinforcing shall be continuous through construction and control joints.
   - 8.7. See details for reinforcing around miscellaneous openings (8" to 36" wide). For openings wider than 36", contact the engineer. All recesses that interrupt reinforcing shall be reinforced the same as an opening.
   - 8.8. Reference ACI 315 for additional detailing requirements.
9. Contractor required to submit concrete mix design for review by the engineer prior to any placement of concrete.
10. Contractor shall refer to and follow the recommendations in ACI 305R for hot weather concreting and ACI 306R for cold weather concreting.
11. Contractor is not to backfill against retaining walls unless walls have achieved design strength or have been shored. Contractor is not to backfill against basement walls without placement of the main floor diaphragm unless the walls have been shored or approval of the EOR has been granted, or it has been noted otherwise on the design drawings.
12. Construction activity or storage of materials shall not take place on newly placed concrete for a minimum of 7 days after concrete placement.

POST-INSTALLED ANCHORS

1. Post-installed anchors shall only be used where specifically detailed or called for on the design drawings. If circumstances arise during construction where the Contractor desires to substitute a post-installed anchor in place of a cast-in-place anchor, the Contractor shall submit a formal written request for each circumstance to the Architect and Engineer for review.
2. Follow all ICC Evaluation Report and manufacturers' requirements and recommendations for post-installed anchor installation. Where conflicts may exist, the most stringent requirement applies.
3. All holes in hollow, brick, or stone masonry shall be performed in the "rotary-only" mode with the hammer function off.
4. Follow manufacturer and ICC evaluation report requirements for installation temperature of adhesive anchors. Adhesive anchors shall not be installed or cured outside of approved temperature ranges.
   - 4.1. Adhesive anchors in concrete (normal weight only) shall be
     - 4.1.1. HIT RE-500 SD by Hilti (ESR-2322)
     - 4.1.2. HIT HY-150 MAX-SD by Hilti (ESR-3013)
     - 4.2.3. SET-XP by Simpson (ESR-2508)
     - 4.2.4. PE1000+ by Powers Fasteners (ESR-2583) - 1/2" to 7/8" diameter only
   - 4.3. Adhesive anchors in brick or stone masonry shall be
     - 4.3.1. HIT HY-20 by Hilti (ESR-4815)
     - 4.3.2. SET by Simpson (ESR-1772)
     - 4.3.3. CIA-GEL 7000 Epoxy by USP (ESR-1702)
5. Mechanical (Expansion) anchors
   - 5.1. Mechanical anchors in concrete shall be
     - 5.1.1. Kwik Bolt TZ by Hilti (ESR-1917)
     - 5.1.2. Kwik HUS-EZ by Hilti (ESR-3027)
     - 5.1.3. Strong-Bolt by Simpson (ESR-1771)
     - 5.1.4. Titen HD by Simpson (ESR-2713)
     - 5.1.5. Trubolt+ by ITW Redhead (ESR-2427)
6. The Contractor may submit, for review and approval, the manufacturer's ICC evaluation report of alternate anchor systems. The alternate method shall provide minimum capacities equal to or greater than those in the above noted anchors. The alternate method shall be approved by the engineer of record prior to the substitution.
7. Special Inspection and Testing
   - 7.1. Special inspection shall be performed according to the requirements of the ICC evaluation report, per section 1704.15 of the IBC. Periodic inspection is allowed for mechanical anchors per section 6.6 of ICC-ES AC193.
   - 7.2. Testing shall be done according to the more stringent requirements of the ICC evaluation report and the values listed below.
     - 7.2.1. Adhesive Anchors in Concrete or Solid Grouted Masonry: 50% of anchors in non-redundant elements (e.g. column, brace connections, boundary steel, hold-downs) and 10% of anchors in redundant elements shall be tension tested at the following loads in kips:
       - Bar Size — Concrete
       - #4----------2.7
       - #5----------4.3
       - #6----------6.0
       - #7----------7.5
     - 7.2.2. Adhesive Anchors in Solid Brick Masonry: Tension test 5% of all anchors to 3000 lbs. Hold load for five minutes. Torque test 25% of all anchors with a calibrated wrench to 60 foot-pounds.
     - 7.2.3. Mechanical anchors shall be tension tested to twice the allowable tension load listed in the ICC evaluation report.

MASONRY VENEER

1. Masonry veneer shall be attached to steel stud and wood stud walls with "Dur-O-Wal DA 213S seismic veneer anchors" by Dur-O-Wal or Hohmann & Barnard "DW-10" or "DW-10HS seismic veneer anchors" (or equal) spaced at 16" on center. Veneer anchors shall be attached to studs with (2) #10 corrosion resistant self-drilling screws and neoprene washers. Attach the veneer to the anchors with "Dur-O-Wal 213S Seismic Steel Pintles" or Hohmann & Barnard 3/16" diameter "Byna-Tie with Seismiclips" (or equal) spaced at a maximum of 16" on center in both directions. Anchor ties shall engage to a galvanized #9 gauge horizontal joint reinforcement wire in the veneer, which shall be continuous and shall be placed at 16" on center maximum at the center of the veneer.
2. Masonry Veneer shall be attached to concrete walls with 22 gauge "Dur-O-Wal DA100" galvanized dovetail slots installed vertically in concrete at 16" on center. Attach the veneer to dovetail slots with 16 gauge "Dur-O-Wal DA 131 seismic dovetail anchor ties" or Hohmann & Barnard 3/16" diameter "Byna-Tie with Seismiclips" (or equal) spaced at a maximum of 16" on center in both vertical and horizontal directions. Anchor ties shall engage to a galvanized #9 gauge horizontal joint reinforcement wire in the veneer, which shall be continuous and shall be placed at 16" on center maximum at the center of the veneer. Dovetail slots and anchor ties shall be galvanized.
3. Other methods of attachment may be used after written acceptance by the architect and structural engineer.
4. Steel Lintels: Provide steel angle lintels at all openings through the masonry veneer. Provide 1" of bearing for each foot of width of opening, with a minimum bearing of 6". See the Steel Angle Lintel Schedule for size.

STRUCTURAL STEEL

1. Codes and Standards: Fabrication and installation shall comply with the latest edition of the following:
   - 1.1. American Institute of Steel Construction (AISC), "Specification for the Design, Fabrication and Erection of Structural Steel for Buildings," with "Commentary".
   - 1.2. AISC "Code of Standard Practice" excluding sections 3.4, 4.4 and 4.4.1.
   - 1.3. AISC "Specification for Structural Joints Using ASTM A325 or A490 Bolts"
   - 1.4. AISC "Seismic Provisions for Structural Steel Buildings."
   - 1.5. American Welding Society (AWS), Structural Welding Codes D1.1, D1.3, D1.4, and D1.8, except as modified by the "Steel Construction Manual".
2. Material:
   - 2.1. Wide Flange Sections----------ASTM A992 (50 ksi)
   - 2.2. Plate
     - 2.2.1. Typical----------ASTM A36
     - 2.2.2. Braced/Moment Frames----------ASTM A572 Grade 50
   - 2.3. Notch-toughness requirements apply for Group 3, 4, and 5 shapes with flange thickness greater than 1 1/2" and plate 2" and thicker which are a part of the Seismic Load Resisting System (SLRS). Minimum Charpy V-Notch requirements are 20 ft-lbs at 70°F.
   - 2.4. Notch-toughness requirements apply for demand critical welds. Minimum Charpy V-Notch requirements are 20 ft-lbs at -20°F and 40 ft-lbs at 70°F
   - 2.5. Pipe----------ASTM A53 Grade B Type E/S
   - 2.6. Hollow Structural Shapes
     - 2.6.1. Rectangular----------ASTM A500 Grade B (46 ksi)
     - 2.6.2. Round----------ASTM A500 Grade B (42 ksi)
   - 2.7. Other Structural Shapes (M, C, etc)----------ASTM A36
   - 2.8. Bolted Connections----------ASTM A325
   - 2.9. Anchor Bolts
     - 2.9.1. All Columns unless noted otherwise: ASTM F1554 Grade 36 with ASTM A563 heavy hex nuts with Grade A hardened washers.
     - 2.9.2. Braced Frame/Moment Frame Columns unless noted otherwise: ASTM F1554 Grade 55 (equiv to A572 Grade 55) ASTM F1554 Grade 105 (equiv to A193 Grade B7) with ASTM A563 heavy hex nuts with ASTM F436 minimum 5/16" thick washers.
   - 2.10. Weld Filler Metal
     - 2.10.1. Shielded Metal Arc Welding----------AWS A5.1, low-hydrogen only
       Low-hydrogen restrictions do not apply when welding sheet steels in accordance with AWS D1.3, including attaching these steels to structural members.
     - 2.10.2. Gas-Metal & Metal-Cored Arc Welding----AWS A5.18
     - 2.10.3. Flux-Cored Arc Welding----------AWS A5.20
       E7XT-4 or E7XT-11 electrodes are not permitted.
     - 2.10.4. Intermixing of welds made from self-shielded welding electrodes with welds made by other processes is not allowed in seismic critical welds, unless tested in accordance with AWS D1.8, annex B. The Field Erection Contractor is responsible for verifying that intermixing of self-shielded weld metal with weld metal of other processes will not occur, or alternatively, the welding procedure is qualified by testing.
   - 2.11. Deformed Bar Anchors (DBA)----------ASTM A496
   - 2.12. Headed Stud Anchors (HSA)----------ASTM A108
   - 2.13. Non-Shrink Grout----------ASTM C1107 Grade B
     Non-shrink grout shall be prepackaged, non-metallic and non-gaseous.
     Furnish certified independent test data to Structural Engineer.
     Fluid Consistency (flow cone) = 20 to 30 seconds
     Compressive Strength in 28 days = 7,500 psi
3. Structural Detailing
   - 3.1. Provide full depth web stiffener plates at each side of all beams at all bearing points. Stiffener plates shall be the thickness called out below unless noted otherwise. Stiffeners shall be welded on both sides of the plate-to-flange and plate-to-web interfaces. Do not weld into the web-to-flange fillet region of the member.
     - FLANGE WIDTH — STIFFENER THICKNESS & WELD SIZE
     - Less than 8 1/4"----------1/4" & 3/16"
     - 8 1/4" to 12 1/4"----------3/8" & 1/4"
     - 12 1/4" to 16 1/2"----------1/2" & 5/16"
     - 16 1/2" to 20 3/4"----------5/8" & 3/8"
   - 3.2. Bolting and Fasteners
     - 3.2.1. Ordinary steel-to-steel connections, simple span framing, and beam/girder-to-bearing plates are the standard connection used throughout the design drawings, unless noted otherwise:
       - 3.2.1.1. Use A325N bolts or tension-controlled bolts.
       - 3.2.1.2. Tighten these fasteners to a "snug tight" condition.
       - 3.2.1.3. Where a steel-to-steel connection is not shown, provide a framed connection per AISC for one half the total uniform load capacity of the beam for the span and steel specified.
     - 3.2.2. Fasteners and washers shall not be reused. Scrap dirty, rusted, or water-contaminated bolt assemblies.
   - 3.3. Reduced Beam Sections
     - 3.3.1. Fabrication of the reduced flange sections of beams used in SLRS is restricted to mechanically guided thermal cutting processes. Freehand cutting is not permitted.
     - 3.3.2. Flange cuts shall meet the requirements of AISC 358.
     - 3.3.3. Repair of gouges, notches, mill imperfections, shall conform to the requirements of the AISC and AWS provisions.
   - 3.4. Weld Access Holes and Temporary Attachments
     - 3.4.1. Fabricate beam copes and weld access holes using the geometry described in AISC 360 Section J1.6.
     - 3.4.2. Runoff tabs are to be removed unless noted otherwise.
   - 3.5. Backup Bars: Remove backup bars from all beam bottom flange connections in demand critical welds, unless noted otherwise. Backgouge the root and weld to sound metal. Reweld the gouged area and add a 5/16" reinforcing fillet weld.
   - 3.6. Protected Zones: No connections, other than those on the design drawings, shall be made within the protected zone of the SLRS as identified in AISC 341.
     - 3.6.1. Locate headed studs, welds, miscellaneous metal, etc outside of the protected zone.
     - 3.6.2. Paint the protected zones with bright paint before and after fire coating operations to identify them.
   - 3.7. Field weld symbols indicate welds that may be performed in the field. The general contractor shall coordinate shop and field welds between the fabricator and erector.
   - 3.8. All structural steel members shall be considered as an unrestrained fire-resistance-rated assembly.
4. Welding of Reinforcing Steel or Bolts
   - 4.1. Reinforcing Bars: Do not weld rebar except as specifically detailed in the drawings. In such cases, use only AWS standards. Do not substitute reinforcing bars for deformed bar anchors, structural bolts, or headed stud anchors.
   - 4.2. Do not weld anchor bolts, including "tack" welds.
   - 4.3. Headed Stud Anchor welding and Deformed Bar Anchor welding shall conform to the manufacturer's specifications.

COMPOSITE STEEL BEAMS

1. All beams supporting concrete over metal deck shall have headed stud anchors.
2. Composite beams are indicated on the framing plans with a suffix (nn). The number inside parentheses indicates the number of studs for this beam or section of beam. Beams or sections of beams shall have the studs spaced uniformly over the beam or section. The maximum spacing shall not exceed 36" on center.
3. All headed stud anchors shall conform to ASTM A-108. Dimensions shall comply with AISC. Use 3/4" diameter studs. Headed studs shall extend 1 1/2" minimum (2" maximum) above the top of the steel deck after welding. Headed studs shall be applied through the metal deck to the top flange of the steel section or welded directly to the steel section.
4. The minimum on center spacing of stud connectors shall be 6 diameters along the longitudinal axis of the supporting composite beam and 4 diameters transverse to the longitudinal axis of the supporting composite beam.
5. Composite beams shall be precambered as shown on plans. On the plans, c=0.00" denotes precamber dimension (upward) in inches.
6. Camber tolerance shall be +1/4", -0".
7. Slab shall be screeded to a constant thickness as indicated.

OPEN WEB STEEL JOISTS AND GIRDERS

1. All open web steel joist and girders shall be fabricated and erected in accordance with the latest edition of Steel Joist Institute (SJI), "Standard Specifications and Code of Standard Practice."
2. Joists or girders with slopes greater than 1/2" per foot shall be designed to meet or exceed the load capacities, listed in the SJI load tables, of the joist or girder sizes indicated on the framing plan, as if the joists or girders were installed level.
3. Provide special bearing ends to accommodate slopes from sloped joists, sloped girders or sloped bearing conditions.
4. Modifications to any joist or girder, including holes through the top and bottom chords, without the written consent and direction from the manufacturer is not allowed.
5. Design loads, unless noted otherwise:
   - 5.1. Wind loads (W) shown are calculated using ASCE 7.
   - 5.2. Seismic loads (E and Em) shown are calculated using ASCE 7.
   - 5.3. Gravity loads (D, L, S, etc.) shown are Allowable Stress (Working Stress) levels.
   - 5.4. Loads shown are at levels to be used directly by the Load Combinations from Section 1605 of the IBC without further adjustment.
   - 5.5. Allowable stress increases are permitted as allowed by the referenced standard being used for design.
6. The deflection of all open web joists and girders shall be limited to L/240 for total load and L/360 for live load, unless noted otherwise.
7. A certificate of compliance must be submitted to the building official upon completion of fabrication per IBC 2206.5.

METAL DECKING

1. Steel deck shall comply with the latest requirements of the Steel Deck Institute.
2. Steel deck material shall comply with the manufacturer's ICC Report and have a minimum yield strength of 33ksi.
3. All deck shall be 3-span continuous minimum. In areas where 3-span conditions are not possible, the contractor shall provide heavier gauge deck as required to provide the equivalent loading of the specified deck under a 3-span condition.
4. Steel roof deck shall not be used to support loads from plumbing, HVAC ducts, light fixtures, architectural elements, or equipment of any kind, unless specifically noted.
5. Conduits are permitted in deck slabs subject to local code requirements and fire rating considerations. When conduit is installed in the slab, it shall be limited to conduits having a diameter of 1" or less, or less than 1/3 the concrete cover, and no crossovers occur, and conduit is spaced at least 18" apart with a 3/4" minimum cover.
6. All members supporting deck shall be dry before welding.
7. Crimp seams before button punching or welding interlocking seams.
8. Where deck is to receive sprayed-on fire proofing, painted deck shall be coated with special paint that will allow the sprayed-on fire proofing to adhere to the painted deck.
9. All welds performed on the steel deck are to be painted.
10. Steel deck shall be galvanized (G60) when used above or below mechanical equipment rooms.
11. Steel floor deck shall be phosphatized/painted, composite, with interlocking side seams with the following minimum properties:

Type/Ga	S(in3/ft)	I (in4/ft)	Concrete (Total)	Allowable shear value
W3/20	0.534	0.896	3" (6") NW	2145 plf for 10'-0" span
W3/20	0.534	0.896	3" (6") LW	1500 plf for 10'-0" span

Weld deck to supporting framing members with 3/4" diameter puddle welds at the following spacing (Closer spacings may be used to develop minimum shear requirements):
   - 11.1.1. 12" on center to supports perpendicular to deck corrugations (4 welds per 36" wide sheet).
   - 11.1.2. 12" on center to all supports parallel to deck corrugations.
   - 11.1. Attach interlocking seams with 3/16" diameter button punch at 18" on center or 1 1/2" top seam weld at 36" on center between adjacent pieces of deck. Closer spacings may be used to develop minimum shear requirements.
   - 11.2. Provide a 2" minimum bearing at all supports.
   - 11.3. Butt all end splices.
12. Steel roof deck shall be painted with interlocking side seams with the following minimum properties:

Type/Ga	S(in3/ft)	I (in4/ft)	Allowable shear value	Notes
1 1/2" B/20	0.235	0.216	904 plf for 6'-0" span	Typ. Roof

Weld steel roof deck to supporting framing members with 3/4" diameter puddle welds at the following spacings (Closer spacings may be used to develop minimum shear requirements):
   - 12.0.1. 6" on center to all supports perpendicular to deck corrugations (7 welds per 36" sheet).
   - 12.0.2. 6" on center to all supports parallel to deck corrugations.
   - 12.0.3. Interlocking side seams between adjacent pieces of decking may be attached with "Verco Sidelap Connections" by Verco Manufacturing (VSC) or "ASC DeltaGrip side seam connection" by ASC Steel Deck at 12" on center minimum.
   - 12.1. At the Contractor's option, Hilti X-EDN19/X-EDNK 22 powder-actuated fasteners may be used in lieu of puddle welds. Follow fastener manufacturer's recommendations for installation. Fasteners shall be installed at the following spacings (Closer spacings may be used to develop minimum shear requirements):
     - 12.1.1. 6" on center to all supports perpendicular to deck corrugations (7 fasteners per 36" sheet).
     - 12.1.2. 6" on center to all supports parallel to deck corrugations.
     - 12.1.3. Interlocking side seams between adjacent pieces of decking may be attached with "Verco Sidelap Connections" by Verco Manufacturing (VSC) or "ASC DeltaGrip side seam connection" by ASC Steel Deck at 4" on center. Closer spacing may be used to develop minimum shear requirements.
   - 12.2. The Contractor may submit, for review and approval, the manufacturer's ICC report of an alternate method of deck attachment. The alternate method shall provide minimum deck diaphragm shear values equal to or greater than those noted above. The alternate method shall be approved by the engineer of record prior to the substitution.
   - 12.3. Provide a 2" minimum bearing and an 8" lap at the splice points, centering the splice over the support.

COLD FORMED STEEL

1. Wall System Performance Requirements
   - 1.1. All systems intended for use to enclose the building shall comply with the following criteria for interstory drift as required by ASCE 7-05 as interpreted or defined herein and as modified or supplemented herein. Systems shall be detailed to accommodate vertical building movement (live load deflection) in conjunction with interstory drift.
     - 1.1.1. All components and systems shall be designed and detailed for elastic (probable) interstory drift (lateral displacement of one floor relative to adjacent floors as indicated in the General Structural Notes. For this given magnitude of movement, all systems and/or elements and/or components shall remain intact, undamaged and all sealant joints integral to or placed between systems shall remain intact, uncompromised, without failures or breaches. Joints, jointing and/or jointery shall be designed such that sealant materials flex, compress and/or shear within limits recommended by the sealant manufacturers so as to remain an effective barrier for water and air infiltration.
     - 1.1.2. In addition, all systems, elements and components shall be designed and detailed for amplified interstory (credible) as indicated in the General Structural Notes such that no failure or distress occurs to systems, and/or components, and/or elements and/or connections except joint sealant is allowed to fail. Under no circumstances shall elements and/or components come in contract with adjacent systems, elements and/or components.
     - 1.1.3. Systems with glazing are intended to keep all members and glazing intact and connected to the building. Glazing shall not break or become dislodged from its restraints. Gaskets may fail and may dislodge but shall not let glass escape its restraint.
     - 1.1.4. Allowance shall be made for sealant to occupy some finite space when compressed beyond its working limit (suggest ±15% of its static joint width).
   - 1.2. All system connections shall comply with requirements of ASCE 7-05, Chapter 13.
   - 1.3. All systems shall be coordinated with all associated adjoining and interface in systems such that consistency is maintained throughout the exterior closure regarding the mode (sliding or racking) in which the system performs to meet interstory drift and other design criteria.
   - 1.4. Systems and details shall be consistent with the architectural intent for joint sizes and system details to the largest extent possible, or where required, modified only after prior approval.
2. Cold Formed Steel Framing
   - 2.1. The design of cold formed steel and low alloy steel structural members shall be in accordance with AISI-NASPEC, North American Specification for the Design of Cold-Formed Steel Structural Members.
   - 2.2. The design, installation and construction of cold formed steel for structural and non-structural framing shall be in accordance with AISI-CFSD, Standard for Cold-Formed Steel Framing - General Provisions.
   - 2.3. All steel framing members shall comply with ASTM C995.
   - 2.4. Follow all manufacturers' guidelines and recommendations for all products.
   - 2.5. Unless noted otherwise, all welded connections shall be done according to AWS standards.
   - 2.6. All interior non-bearing steel stud walls that extend above the ceiling but do not attach to the structure above shall be braced with diagonal metal-stud braces (45°). The kl/r ratio of the brace shall not exceed 200 and shall not be spaced further apart than 10'-0" on center. Connect diagonal braces to the top of the steel stud walls and to the top flange of the steel beams with (2) #10 tek screws minimum. Where a concrete deck occurs above, use two powder-driven fasteners per diagonal brace. Other approved methods may be used.
   - 2.7. Anchor bolts: See steel section of general notes.
3. Connection Hardware
   - 3.1. Exterior framing shall be attached to primary structure to provide vertical and lateral drift as indicated in these drawings. The "DriftTrack DTSL" by the Steel Network or equivalent is suitable to meet this requirement. Inside and outside corner joints shall be detailed to accommodate the lateral drift indicated. See architectural drawings for joint location and details.
   - 3.2. All connection hardware (examples: "StiffClip", "VertiClip", "DriftClip", "BridgeClip", etc) shown shall be supplied by:
     The Steel Network, Inc.
     3221 Wellington Court
     Raleigh, NC 27615
     Phone: (888) 474-4876
     www.steelnetwork.com
   - 3.3. Install all hardware per the manufacturer's guidelines and recommendations.
   - 3.4. The contractor may submit an alternate connection method for approval by Dunn Associates, Inc. and the Architect.
4. Prefabricated Wall Systems: Submit complete shop drawings and calculations of all elements and connections for review. Shop Drawings shall bear the stamp of a Professional Engineer licensed in the same state as the project location.

SPECIAL INSPECTION REQUIREMENTS

1. Seismic/Wind-force-resisting systems:
   - 1.1. Concrete shear walls
   - 1.2. Steel moment frames
   - 1.3. Concrete diaphragms

   See specific discipline drawings for additional designated seismic systems requiring special inspection which are not contained in the structural drawings.
2. Special inspection and testing as required by the IBC shall be provided by an independent agency employed by the owner unless waived by the building official. The contractor shall coordinate and cooperate with the required inspections/tests as indicated below, referring to the IBC section indicated as appropriate.
3. Special inspection reports from the inspector shall be sent to the architect/engineer and building official.
   - 3.1. Bring any discrepancies to the contractor's immediate attention.
   - 3.2. Notify the engineer of any non-passing work that the contractor cannot readily correct.
   - 3.3. Any uncorrected discrepancies shall be brought to the attention of the architect/engineer and building official prior to completion of that phase of the work.

MAY 16, 2012
50% Review Submittal

NOTE:
THESE STRUCTURAL DRAWINGS ARE BASED ON ARCHITECTURAL DRAWINGS DATED 05.10.2012
DIMENSIONS AND ELEVATIONS, AS THEY RELATE TO THE BUILDING IN GENERAL, i.e. GRID TO GRID DIMENSIONS OR DECK BEARING ELEVATIONS, ARE SUPPLIED BY THE ARCHITECT. THEY ARE PROVIDED ON THE STRUCTURAL PLANS AND DETAILS FOR THE CONVENIENCE OF THE CONTRACTOR. VERIFY DIMENSIONS AND ELEVATIONS WITH ARCHITECTURAL DRAWINGS.

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REVISIONS:

SOUTHERN UTAH MUSEUM OF ART

Enter address here

DRAWN BY:	J RALEIGH SMITH
DESIGNED BY:	DAVID DUNN
CHECKED BY:	-
DUNN PROJECT NO.:	10160
ISSUED DATE:	MAY 16, 2012

GENERAL STRUCTURAL NOTES

S001

3.4. A final report documenting required special inspections and corrections of any discrepancies shall be provided.

4. Quality Control Submittals for Structural Steel
   - 4.1. Furnish Level III nondestructive testing (NDT) personnel certifications.
   - 4.2. Furnish welder qualification records to verify project welders are tested and qualified in accordance with AWS D1.1 before welding structural or miscellaneous steels, D1.3 before welding sheet steels (10 ga and thinner), and D1.4 before welding reinforcing steel. Submit documentation to the approved inspection agency for review before welding.
     - 4.2.1. Special, restricted welder qualification testing is required for welders joining the bottom-flange through the weld access hole connection in demand critical welds. Qualify welders for the minimum groove angle and maximum deposition rate used in production. Follow the instructions for supplemental qualification testing in AWS D1.8, Section 5.1. Qualification testing must take place within two years from the start of this project.
   - 4.3. Furnish welding procedures that comply with AWS D1.1, D1.3, D1.4, D1.8, as required by the project. Welding procedures shall be made available to welders and inspectors.
     - 4.3.1. Furnish weld filler metal product data sheets identifying optimum welding parameters and storage conditions with each welding procedure submittal.
     - 4.3.2. Identify the maximum welding heat input per inch of weld (KJ/in) permitted by the welding procedures.
     - 4.3.3. Identify the maximum deposition rate that will be used while welding on any demand critical weld.
     - 4.3.4. Furnish typical welding filler metal Certificates of Conformance that identify the WPS Heat Input Envelope.
   - 4.4. Furnish a preliminary welding repair procedure to follow should welding repairs be required within the Seismic Protected Zone.
   - 4.5. Provide bolt storage and installation procedures to the approved inspection agency for review.
   - 4.6. Provide mill/material test reports (MTR) or certificates of conformance (CofC) that verify compliance of furnished materials to the requirements of the approved contract documents. MTRs or CofCs are required for structural shapes, plate, metal deck, fasteners, headed studs, DBAs, weld filler metal, and bolt assemblies used as primary, load-bearing members. Maintain the heat number traceability of structural shapes and plate used as primary, load bearing members.

5. Special Inspectors
   - 5.1. Special inspectors shall be qualified persons who shall demonstrate competence, to the satisfaction of the building official, for inspection of the particular type of construction or operation requiring special inspection.
   - 5.2. Structural Steel Non-Destructive Testing (NDT)
     - 5.2.1. NDT personnel will:
       - 5.2.1.1. Qualify in accordance with the recommended practices of the American Society of Nondestructive Testing, SNT-TC-1A, latest edition.
       - 5.2.1.2. Pass eye examinations meeting: (1) ASTM requirements at least once a year, and (2) AWS D1.1 every three years.
       - 5.2.1.3. Be certified in accordance with the AWS QC-1, latest edition.
       - 5.2.1.4. Level III must be qualified by ASNT testing in the applicable method under review.
     - 5.2.2. Only Level II and Level III technicians, qualified by testing in the applicable method, are permitted to interpret nondestructive testing results.
     - 5.2.3. Only Senior Certified or Certified Welding Inspectors (SCWI, CWI) are permitted to evaluate welds. Certified Associate Welding Inspectors may evaluate welds when under the direct supervision of a SCWI and/or CWI.
   - 5.3. Approved Inspection Agency will certify the following:
     - 5.3.1. Level III inspector has reviewed the NDT procedures
     - 5.3.2. Project ultrasonic testing technicians, testing demand critical welds, are trained and qualified in accordance with AWS D1.8, Annex E
     - 5.3.3. That the Inspection Agencies' ultrasonic testing procedures are qualified by weld mockups similar to AWS D1.1, Annex S

6. Section 1704: Special Inspections
   - 6.1. Fabricators (1704.2): All offsite fabrication of structural members (structural steel, precast concrete, wood glulams, etc.) shall be special inspected as required by the IBC, except work performed by fabricators registered and approved to perform work without special inspection. Approved fabricators shall submit a certificate of compliance to building official at the completion of fabrication.
   - 6.2. Steel (1704.3): Special inspection is required during the fabrication of any load-bearing members and assemblies, unless the fabricator and/or erector demonstrate prior approval by the jurisdiction where fabricated steel will be installed.
     - 6.2.1. Perform all welding and welding special inspection activities in accordance with AWS D1.1, D1.3, D1.4, and D1.8 as appropriate for the material form and welding methods employed. Approved methods and acceptance criteria are established in these codes.
     - 6.2.2. Perform all bolting and bolting inspection in accordance with AISC Specification for Structural Joints Using A325 and A490 Bolts.
     - 6.2.3. Continuous Special Inspection of welding is required for:
       - 6.2.3.1. Complete and partial penetration welds, except flare-bevel groove welds
       - 6.2.3.2. Multi-pass fillet welds
       - 6.2.3.3. Single-pass fillet welds larger than 5/16"
     - 6.2.4. Periodic Special Inspection of welding is required for (Inspect 25% of welds while welding operations are taking place):
       - 6.2.4.1. Single-pass fillet welds equal to or smaller than 5/16"
       - 6.2.4.2. Floor and roof deck arc spot, puddle welds
       - 6.2.4.3. Welding of stairs and railing systems, cold formed steel studs/joists.
     - 6.2.5. Periodic Special Inspection of all bolts is required as follows:
       - 6.2.5.1. Verify the proper grade of fasteners are installed where indicated in the approved construction drawings.
       - 6.2.5.2. Verify the storage and cleanliness of high strength fasteners meets AISC requirements.
       - 6.2.5.3. Store fasteners in protected storage until released for use. Temperature control is not required. Do not use fastener components showing rust, dirt, or grit. Cleaning or modifying fastener components from the as-delivered condition is not permitted.
       - 6.2.5.4. Verify the faying surfaces have been brought into firm contact, the bolts are in a snug tight condition, and that washers have been used as required.
     - 6.2.6. Non-Destructive Testing (NDT) of Welds is required as follows:
       - 6.2.6.1. Fabricators will visually inspect all welds for conformance to the approved construction drawings before releasing items for installation.
       - 6.2.6.2. Test all complete joint penetration welds joining primary structural members 5/16" or thicker, by radiographic or ultrasonic testing. Test in accordance with AWS D1.1, Section 6.
       - 6.2.6.3. Ultrasonically test base metal thicker than 1 1/2" for material discontinuities when that material is subjected to through-thickness weld shrinkage strains. (e.g. column flange of the beam-to-column, or column to base plate, complete joint penetration welds)
       - 6.2.6.4. Magnetic Particle Test is required for the following items:
         - 6.2.6.4.1. All temporary attachment or unauthorized weld sites or repairs inside the Protected Zones after finishing and grinding operations
         - 6.2.6.4.2. Any welds made in the k-zone
         - 6.2.6.4.3. 25% of all beam-to-column complete joint penetration welds
         - 6.2.6.4.4. Beam copes and weld access holes made in rolled shapes with flange thickness greater than 1 1/2" or in built-up shapes with webs thicker than 1 1/2"
         - 6.2.6.4.5. Weld tab removal sites.
       - 6.2.6.5. Amount of NDT is permitted to be reduced according to AISC 341, Appendix Q5.2(g) and (h) if appropriate criteria are met and if approved by the building official and engineer of record.
   - 6.3. Concrete (1704.4): Concrete construction shall be special inspected according to Table 1704.4, except in buildings 3 stories or less above the grade plane where structural design of continuous concrete footings is based on compressive strength, f'c, no greater than 2500 psi. In the absence of sufficient data or documentation showing conformance to quality standards for materials, testing shall be required to determine material properties under the direction of the building official according to Chapter 3 of ACI 318.
   - 6.4. Soils (1704.7): Existing site soil conditions, fill placement and procedure and load-bearing requirements shall be special inspected to verify compliance with the approved soils report and Table 1704.7. Where total depth of controlled fill is 12" or less, the special inspector shall verify that the in-place dry density of the compacted fill is not less than the 90% of the maximum dry density at optimum moisture content according to ASTM D 1557.
   - 6.5. Driven deep foundations (1704.8): Special inspections shall be performed during installation and testing to verify compliance with the approved soils report and Table 1704.8.
   - 6.6. Cast-in-place deep foundations (1704.9): Special inspections shall be performed during installation and testing to verify compliance with the approved soils report and Table 1704.9.
   - 6.7. Helical pile foundations (1704.10): Special inspections shall be performed continuously during installation to verify compliance with the approved soils report. Recorded information shall include installation equipment used, pile dimensions, tip elevations, final depth, final installation torque and other pertinent data as required.
   - 6.8. Sprayed fire-resistant materials (1704.12): Special inspections for sprayed fire-resistant materials applied to structural elements and decks shall be in accordance with Sections 1704.12.1 through 1704.12.6 and based on the fire-resistance design as designated in the architectural drawings.
   - 6.9. Mastic and intumescent fire-resistant coatings (1704.13): Special inspections for mastic and intumescent fire-resistant coatings applied to structural elements and decks shall be in accordance with AWCI 12-B and based on the fire-resistance design as designated in the architectural drawings.
   - 6.10. See architectural drawings for additional inspections pertaining to EIFS (1704.14) or smoke control systems (1704.16).
   - 6.11. Special Cases (1704.15): Special inspect all post-installed anchors per ICC report.

7. Section 1707: Special Inspections for Seismic Resistance
   - 7.1. Structural steel (1707.2): See special inspections for steel above.
   - 7.2. See specific discipline drawings for anchorage of storage racks (1707.5), architectural components (1707.6), mechanical/electrical components (1707.7) and designated seismic system verification (1707.8).
   - 7.3. Seismic isolation systems (1707.9): Periodic special inspection is required during the fabrication and installation of isolator units and energy dissipation devices that are part of the seismic isolation system.

8. Section 1708: Structural Testing for Seismic Resistance
   - 8.1. Concrete Reinforcement (1708.2): Where reinforcement complying with ASTM A 615 is used to resist earthquake-induced flexural and axial forces in special moment frames, special structural walls and coupling beams connecting special structural walls in structures assigned to Seismic Design Category B, C, D, E or F, the reinforcement shall comply with section 21.1.5.2 of ACI 318. Certified mill test reports shall be provided for each shipment of such reinforcement. Where ASTM A 615 reinforcing steel is to be welded, chemical tests shall be performed to determine weldability in accordance with Section 3.5.2 of ACI 318.
   - 8.2. Structural steel (1708.3): See special inspections for steel above.
   - 8.3. See manufacturer's seismic certification of compliance for non-structural components.
   - 8.4. Seismically isolated structures (1708.5): See Section 17.8 of ASCE 7 for required tests.

9. Structural Observations for Seismic Resistance: Contractor shall notify the engineer at least 2 days prior to the following stages of construction so the engineer may have the opportunity to review the work. Observation reports shall be sent to architect, contractor and building official.
   - 9.1. Initial placing of any concrete, including but not limited to: footings, shear walls, moment frame beams, post-tensioned slabs, slabs on grade or concrete over steel deck
   - 9.2. Initial erection of structural steel
   - 9.3. Completion of structural roof deck
   - 9.4. Initial finish work

LEGEND OF MARKS AND ABBREVIATIONS

AB	Anchor Bolt	JST	Joist
ABV	Above		
ALT	Alternate	K	Kip(S) = 1000 Pounds
ARCH	Architect	KLF	Kips Per Lineal Foot
		KSF	Kips Per Square Foot
BLDG	Building		
BLK	Blocking	LB	Pounds (#)
BLW	Below	LOC	Location
BM	Beam		
BOTT	Bottom	MAS	Masonry
BRDG	Bridging	MAX	Maximum
BRG	Bearing	MECH	Mechanical
BTW	Between	MEZZ	Mezzanine
		MFR	Manufacturer
CJ	Control Joint	MIN	Minimum
CJP	Complete Joint Penetration	MISC	Miscellaneous
CL	Center Line	MTL	Metal
COL	Column		
CONC	Concrete	NTS	Not To Scale
CONN	Connection		
CONT	Continuous	oc	On Center
COORD	Coordinate	OPNG	Opening
CTR	Center	OPP	Opposite
DB	Deck Bearing	PCF	Pounds per Cubic Foot
DBA	Deformed Bar Anchor	PEN	Penetrate or Penetration
DBL	Double	PERP	Perpendicular
DCW	Demand Critical Weld	PL	Plate
DET	Detail	PLF	Pounds per Lineal Foot
DIA	Diameter	PREFAB	Prefabricated
DIM	Dimension	PSF	Pounds per Square Foot
DWG	Drawing	PSI	Pounds per Square Inch
(E)	Existing	REINF	Reinforce
EA	Each	REQD	Required
EF	Each Face	RTU	Roof Top Unit
EL	Elevation		
ELEC	Electrical	SCHED	Schedule
ENGR	Engineer	SIM	Similar
EQ	Equal	SOG	Slab on Grade
EQUIP	Equipment	STD	Standard
EQ SP	Equally Spaced	STIFF	Stiffener
EW	Each Way	STL	Steel
EXT	Exterior	STRUCT	Structural
		SW	Shear Wall
FLR	Floor		
FND	Foundation	T&B	Top and Bottom
FTG	Footing	TEMP	Temperature
		THRU	Through
ga	Gage	T/	Top of
GALV	Galvanized	TYP	Typical
GSN	General Structural Notes		
		UNO	Unless Noted Otherwise
HORIZ	Horizontal		
HSA	Headed Stud Anchor	VERT	Vertical
HSS	Hollow Structural Section		
		W/	With
ICBO	International Conference of Building Officials	WWR	Welded Wire Reinforcement
		WP	Working Point
IBC	International Building Code		
ICC	International Code Council		
INT	Interior		

DEFERRED SUBMITTALS

1. Items requiring deferred submittals that are listed below are to be designed and fabricated by the manufacturer according to specifications given in the construction documents.
   - 1.1. Open Web Steel Roof Joists and Girders (by steel joist manufacturer)
   - 1.2. Steel Stairs (by steel stair manufacturer. Stair suppliers to provide any additional required support steel beyond that of the main building framing system shown on the design drawings.)
   - 1.3. Exterior Facade Framing and Connections (by supplier) showing compliance with drift requirements
   - 1.4. Seismic Bracing for mechanical, electrical and plumbing components
2. These deferred submittals shall first be submitted to the project architect and/or engineer for review and coordination. Upon completion of the architect/engineer review, the architect/engineer will submit the deferred submittals to the Building Official for review and approval. The submittal to the Building Official shall include a letter stating that the architect/engineer review has been performed and that the plans and calculations for the deferred submittal items are found to be in general conformance with the design drawings with no exceptions.
3. The final submittal shall be signed and sealed by a Professional Engineer licensed in the state in which construction will occur and shall be available at the jobsite throughout construction.
4. Construction related to deferred submittals shall not commence until the Building Official has approved the submittal.

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COOPER JOSEPH STUDIO

REVISIONS:

MAY 16, 2012
50% Review Submittal

NOTE:
THESE STRUCTURAL DRAWINGS ARE BASED ON ARCHITECTURAL DRAWINGS DATED 05.10.2012

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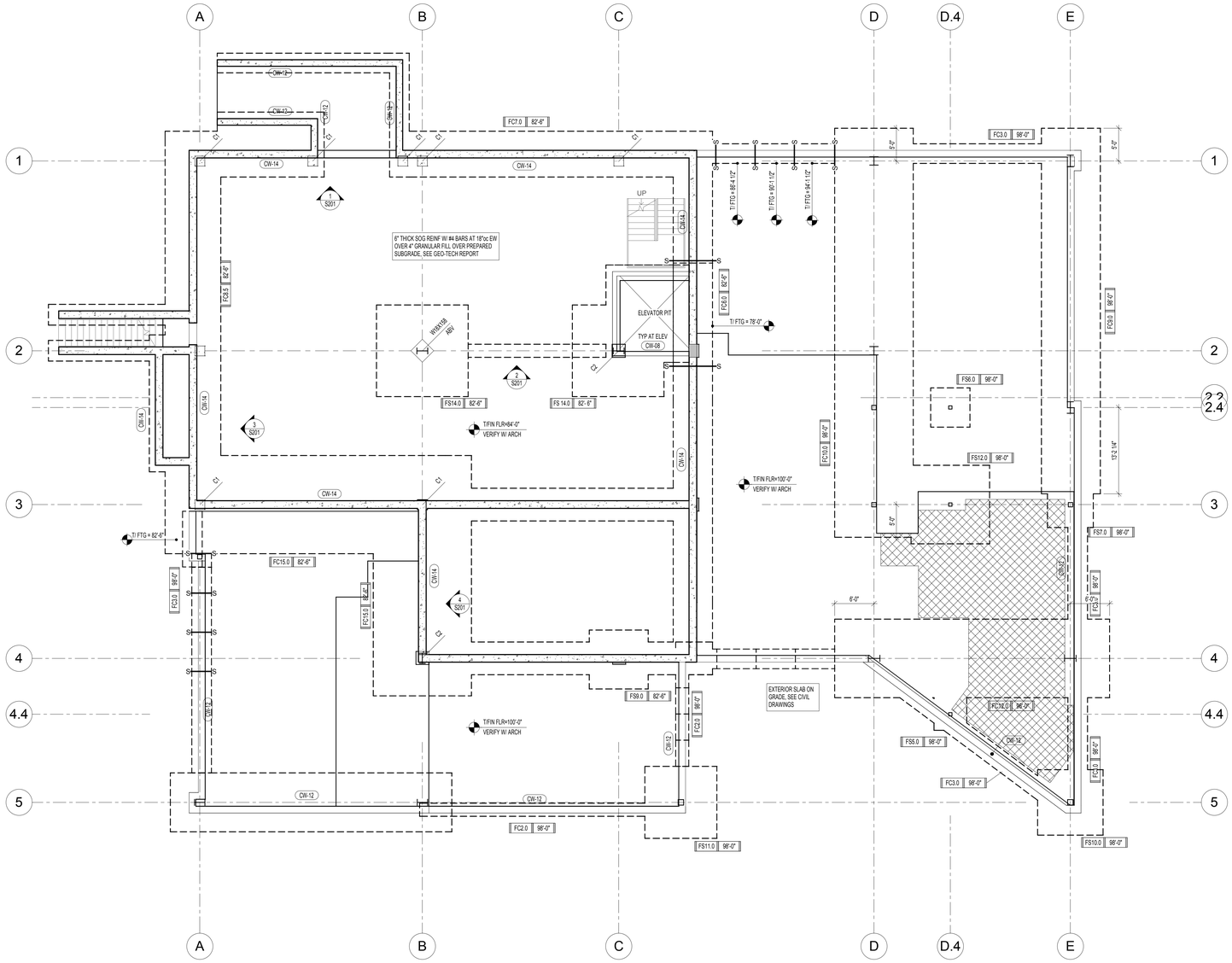
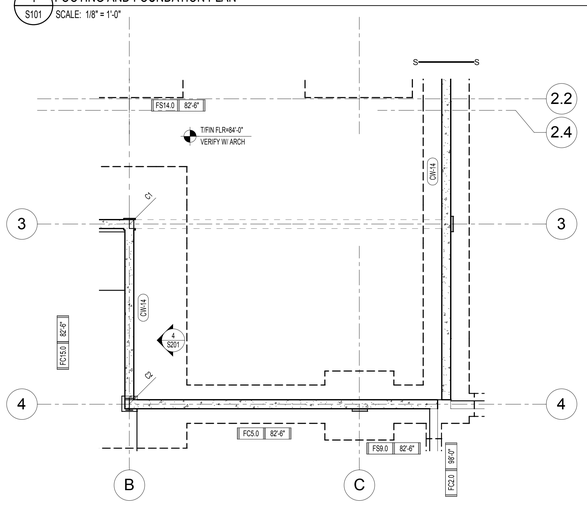
DRAWN BY:	J RALEIGH SMITH
DESIGNED BY:	DAVID DUNN
CHECKED BY:	-
DUNN PROJECT NO.:	10160
ISSUED DATE:	MAY 16, 2012

GENERAL STRUCTURAL NOTES

S002



1 S101 FOOTING AND FOUNDATION PLAN
SCALE: 1/8" = 1'-0"



2 S101 FOOTING AND FOUNDATION PLAN - ALTERNATE 1
SCALE: 1/8" = 1'-0"

MARKS AND SYMBOL LEGEND

	SECTION MARK SHEET NUMBER
	FRAME EL MARK FRAME
	EL ON (S201)
FTG EL	FTG DESIGNATION TOF EL, SEE DET ON (S511) FOR REQD FROST DEPTH
	DEPRESSED FND WALL, POUR SLAB OVER, SEE FTG AND FND DETS ON (S511)
S S	FTG STEP, SEE FTG AND FND DETS ON (S511)
	FLR OFFSET, SEE FTG AND FND DETS ON (S511)
	DEPRESSED SLAB, SEE ARCH PLANS FOR EXACT LOCATION AND EL
	CONC WALL, SEE SCHED ON (S601)
or	STL COL, SEE SCHED ON (S601)
CW-X	CONC WALL, SEE SCHED ON (S601)
CP-x	CONC PIER, SEE SCHED ON (S601)
FC-x	CONT FTG, SEE SCHED ON (S601)
FS-x	SPOT FTG, SEE SCHED ON (S601)
FR-x	RECTANGULAR FTG, SEE SCHED ON (S601)
FTS-x	THICKENED SLAB FTG, SEE SCHED ON (S601)
CJ	CONTROL JOINT, SEE FTG AND FND DETS ON (S501)
FD	FLR DRAIN, SEE ARCH FOR EXACT LOCATION

FOOTING AND FOUNDATION PLAN NOTES:

1. COORDINATE LOCATION OF DEPRESSED SLABS, SLOPED SLABS, AND FLOOR DRAINS WITH ARCHITECTURAL AND MECHANICAL DRAWINGS.
2. SEE ARCHITECTURAL DRAWINGS AND CIVIL DRAWINGS FOR EXTERIOR CONCRETE WORK AT DOORS, SIDEWALKS, ETC.
3. CENTER ALL SPOT FOOTINGS UNDER COLUMNS AS SHOWN ON PLAN, TYPICAL UNO.
4. SEE ARCHITECTURAL DRAWINGS FOR DIMENSIONS TO ALL STEEL COLUMNS.
5. SEE FOOTING AND FOUNDATION DETAILS ON SHEET (S511) FOR BURIED PIPES RUNNING PARALLEL AND PERPENDICULAR TO FOOTINGS.
6. SEE FOOTING AND FOUNDATION DETAILS ON SHEET (S511) FOR TYPICAL CONSTRUCTION AND CONTROL JOINTS IN FLOOR SLABS.
7. SEE FOOTING AND FOUNDATION DETAILS ON SHEET (S511) FOR LOCATIONS WHERE CONTROL JOINTS ARE DISCONTINUOUS.
8. SEE FOOTING AND FOUNDATION DETAILS ON SHEET (S511) FOR REINFORCING AROUND MISCELLANEOUS OPENINGS IN CONCRETE WALLS.
9. SEE FOOTING AND FOUNDATION DETAILS ON SHEET (S511) FOR FILL BENEATH FOOTINGS.
10. SEE SHEETS (S201) FOR FRAME ELEVATIONS AND (S501) FOR FRAME DETAILS.

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NOTE:
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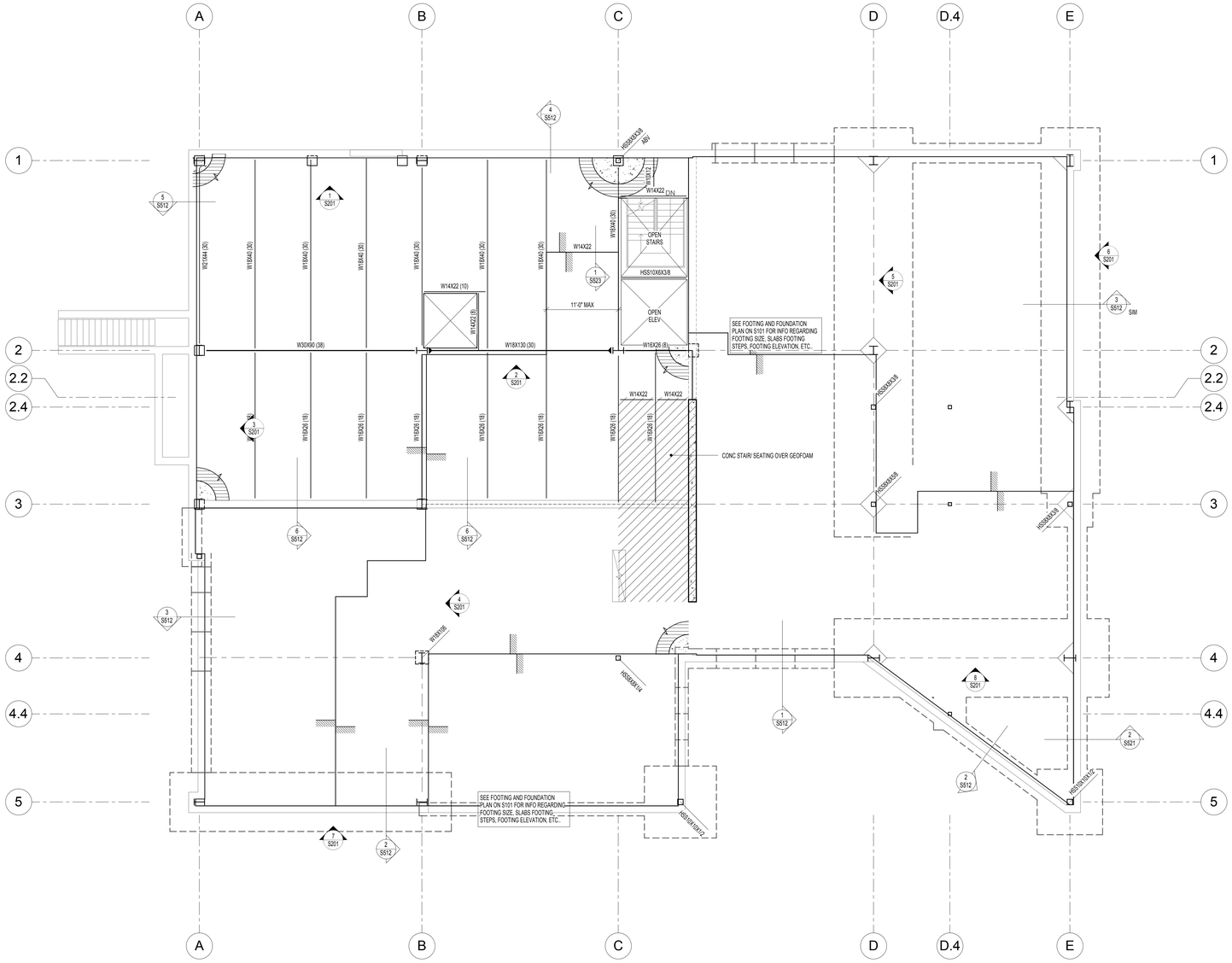
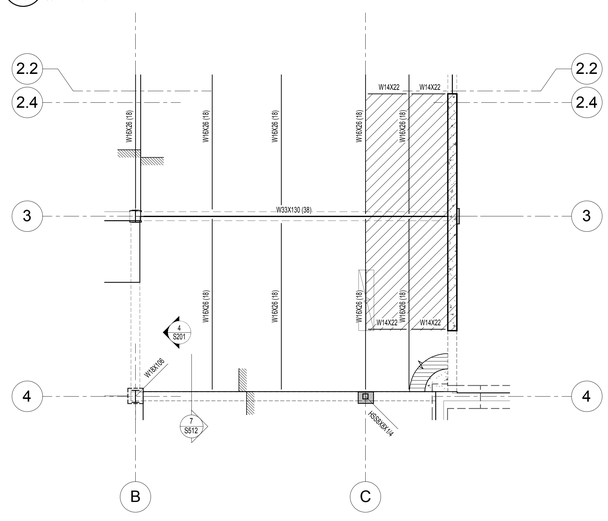
FOOTING AND FOUNDATION PLAN

S101



1 S102 FIRST FLOOR FRAMING PLAN
SCALE: 1/8" = 1'-0"



2 S102 FIRST FLOOR FRAMING PLAN - ALTERNATE 1
SCALE: 1/8" = 1'-0"

MARKS & SYMBOLS LEGEND

- SECTION MARK / SHEET NUMBER
- FRAME EL MARK FRAME
- EL ON (S201)
- CONC OVER MTL DECK, SEE GSN ON (S001)
- ADDITIONAL CONC REINF OF (2) #6 BARS x 6'-0", CTR ON CORNERS, NO SPLICES
- DEPRESSED SLAB, SEE ARCH PLANS FOR EXACT LOCATION AND EL
- CONC WALL, SEE SCHED ON (S601)
- STL COL, SEE SCHED ON (S601)
- CONC COL, SEE SCHED ON (S601)
- LATERAL FRAME MOMENT CONNECTIONS
- GRAVITY MOMENT CONNECTIONS
- DBL SHEAR CONNECTION, SEE SCHED ON (S601)
- CB-x — CONC BM, SEE SCHED ON (S601)
- CC-x — CONC COL, SEE SCHED ON (S601)
- CL-x — CONC LINTEL, SEE SCHED ON (S601)
- W_x_ — COMPOSITE STL BMS, SEE GSN ON (S001)
- (x) — NUMBER OF HSA FOR SECTION OF COMPOSITE STL BM, SEE GSN ON (S001)
- (c=_") — REQD PRE-CAMBER AT MID-SPAN OF BMS, CAMBER TOLERANCE SHALL BE +1/4", -0"

FLOOR FRAMING PLAN NOTES:

1. VERIFY WALL FLOOR OPENINGS FOR MECHANICAL SHAFTS, STAIRS, ETC. WITH ARCHITECTURAL DRAWINGS.
2. SEE FLOOR FRAMING DETAILS ON SHEET (S511) FOR FRAMING AROUND MISCELLANEOUS OPENINGS.
3. SEE SHEETS (S201) FOR FRAME ELEVATIONS AND (S501) FOR FRAME DETAILS.
4. SEE ARCHITECTURAL DRAWINGS FOR ALL DIMENSIONS TO STEEL COLUMNS AND SLAB EDGES.
5. SEE FOOTING AND FOUNDATION DETAILS ON SHEET (S511) FOR REINFORCING AROUND MISCELLANEOUS OPENINGS IN CONCRETE WALLS.

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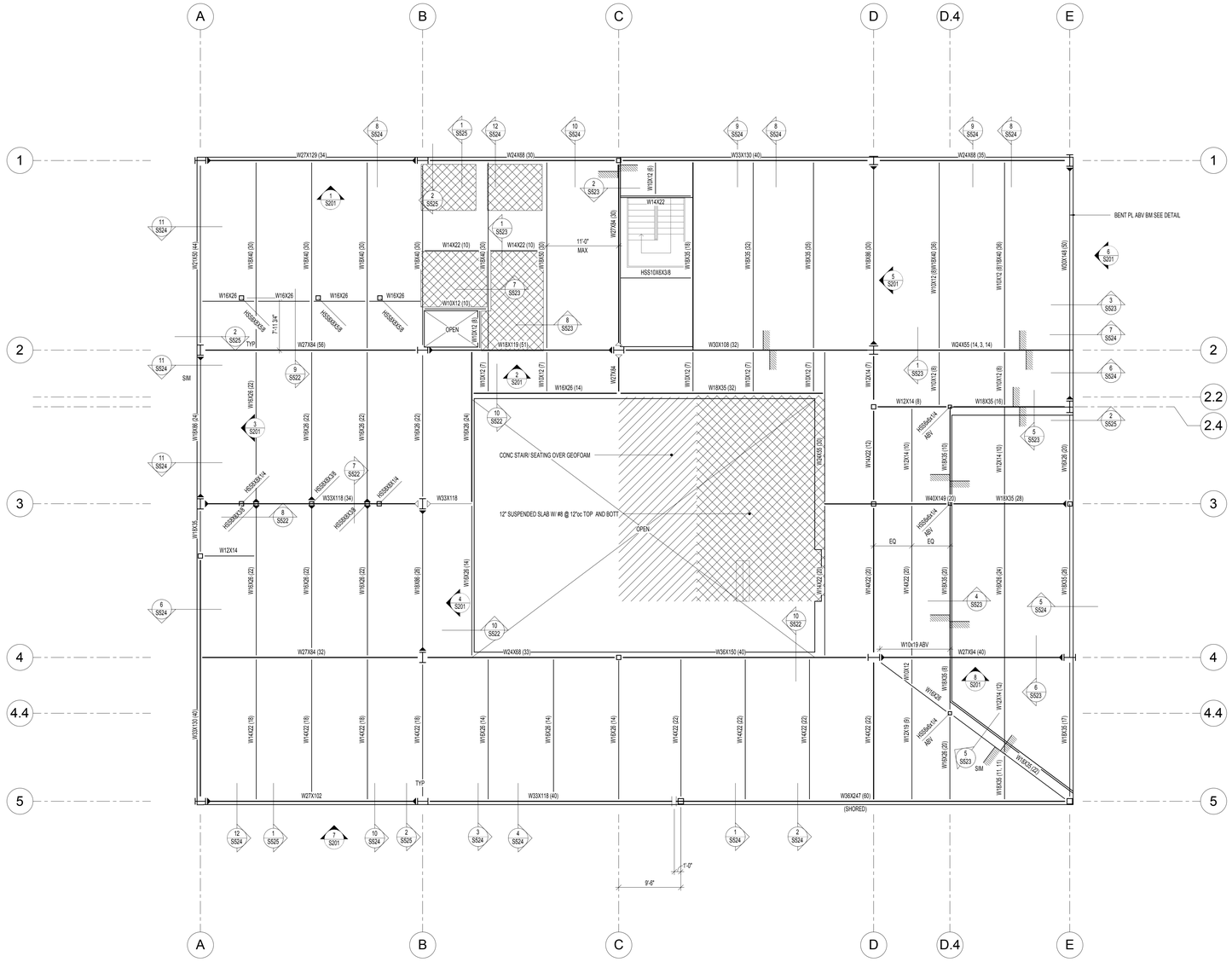
FIRST FLOOR FRAMING PLAN

S102



1 / S103 SECOND FLOOR FRAMIG PLAN
SCALE: 1/8" = 1'-0"

MARKS & SYMBOLS LEGEND

- SECTION MARK / SHEET NUMBER
- FRAME EL MARK FRAME
- EL ON (S201)
- CONC OVER MTL DECK, SEE GSN ON (S001)
- ADDITIONAL CONC REINF OF (2) #6 BARS x 6'-0", CTR ON CORNERS, NO SPLICES
- DEPRESSED SLAB, SEE ARCH PLANS FOR EXACT LOCATION AND EL
- CONC WALL, SEE SCHED ON (S601)
- STL COL, SEE SCHED ON (S601)
- CONC COL, SEE SCHED ON (S601)
- LATERAL FRAME MOMENT CONNECTIONS
- GRAVITY MOMENT CONNECTIONS
- DBL SHEAR CONNECTION, SEE SCHED ON (S601)
- CB-x — CONC BM, SEE SCHED ON (S601)
- CC-x — CONC COL, SEE SCHED ON (S601)
- CL-x — CONC LINTEL, SEE SCHED ON (S601)
- W_x_ — COMPOSITE STL BMS, SEE GSN ON (S001)
- (x) — NUMBER OF HSA FOR SECTION OF COMPOSITE STL BM, SEE GSN ON (S001)
- (c=_") — REQD PRE-CAMBER AT MID-SPAN OF BMS, CAMBER TOLERANCE SHALL BE +1/4", -0"

FLOOR FRAMING PLAN NOTES:

1. VERIFY WALL FLOOR OPENINGS FOR MECHANICAL SHAFTS, STAIRS, ETC. WITH ARCHITECTURAL DRAWINGS.
2. SEE FLOOR FRAMING DETAILS ON SHEET (S521) FOR FRAMING AROUND MISCELLANEOUS OPENINGS.
3. SEE SHEETS (S201) FOR FRAME ELEVATIONS AND (S501) FOR FRAME DETAILS.
4. SEE ARCHITECTURAL DRAWINGS FOR ALL DIMENSIONS TO STEEL COLUMNS AND SLAB EDGES.
5. SEE FOOTING AND FOUNDATION DETAILS ON SHEET (S511) FOR REINFORCING AROUND MISCELLANEOUS OPENINGS IN CONCRETE WALLS.

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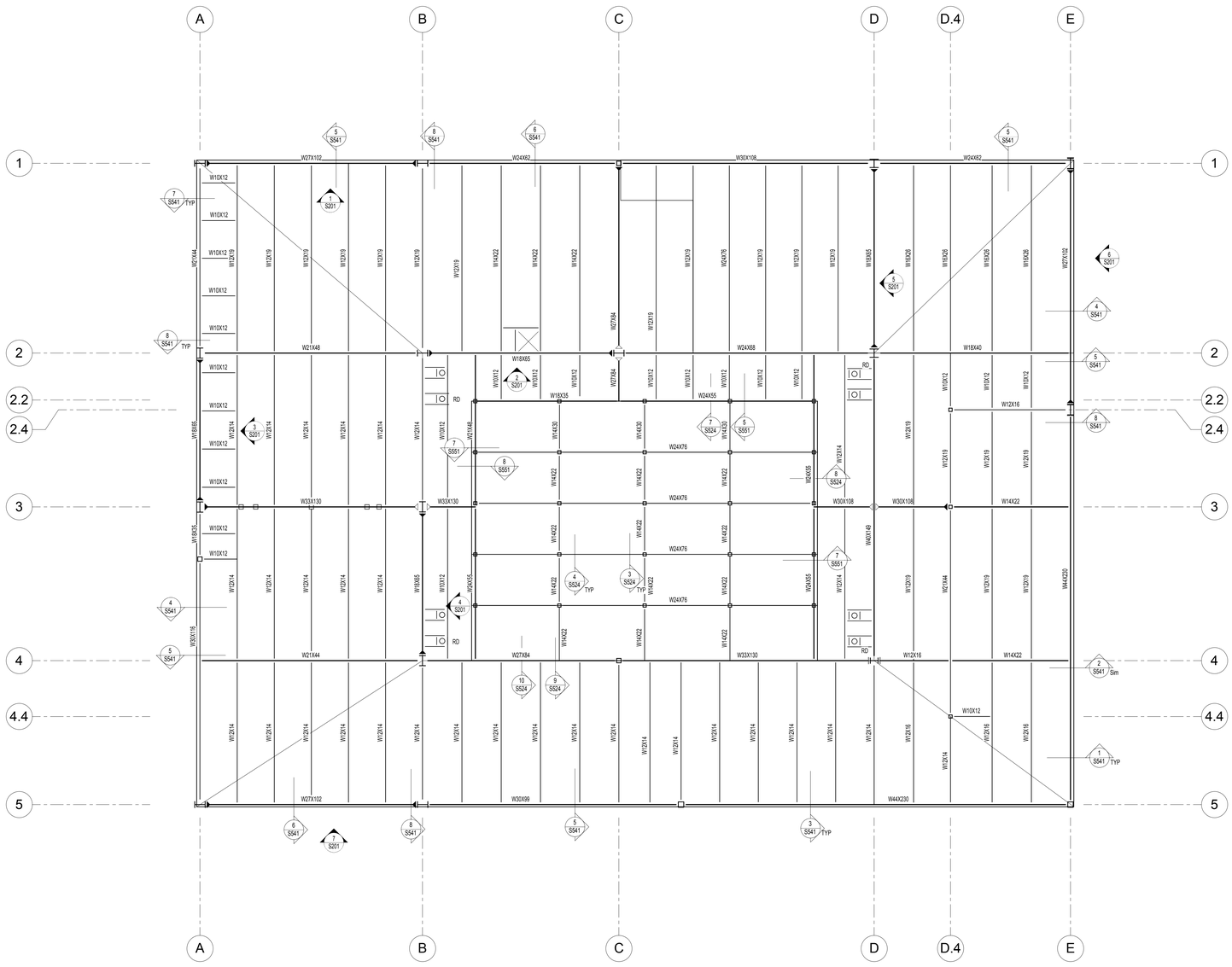
SECOND FLOOR FRAMING PLAN

S103



1 S104 ROOF FRAMING PLAN
SCALE: 1/8" = 1'-0"

MARKS AND SYMBOLS LEGEND

- SECTION MARK / SHEET NUMBER
- FRAME EL MARK FRAME
- EL ON (S201)
- MTL ROOF DECK, SEE GSN ON (S001)
- STL COL, SEE SCHED ON (S601)
- LATERAL FRAME MOMENT CONNECTIONS
- GRAVITY MOMENT CONNECTIONS
- DOUBLE SHEAR CONNECTION, SEE SCHED ON (S601)
- RD — ROOF DRAIN, SEE ARCH AND MECH FOR EXACT LOCATION

ROOF FRAMING PLAN NOTES:

1. VERIFY ROOF SLOPES, DRAINS, AND DECK BEARING ELEVATIONS WITH ARCHITECTURAL DRAWINGS. SEE ROOF FRAMING DETAILS ON SHEET (S531).
2. ALL ROOF OPENINGS SHALL BE FRAMED AS INDICATED IN ROOF FRAMING DETAILS ON SHEET (S531)
3. SEE ROOF FRAMING DETAILS ON SHEET (S531) FOR MECHANICAL UNITS HUNG BELOW JOISTS.
4. VERIFY SIZE, WEIGHT, AND LOCATION OF ALL ROOF TOP MECHANICAL UNITS WITH ARCHITECTURAL AND MECHANICAL DRAWINGS. SEE ROOF FRAMING DETAILS ON SHEET (S531) FOR STEEL FRAMES AT ALL ROOF TOP EQUIPMENT. COORDINATE OPENINGS WITH MECHANICAL, ELECTRICAL, AND GENERAL CONTRACTORS.
5. SEE SHEETS (S201) FOR MOMENT FRAME ELEVATIONS AND MOMENT FRAME DETAILS ON SHEET (S801).
6. SEE ARCHITECTURAL PLANS FOR ALL STEEL COLUMN LOCATIONS (DIMENSIONS).

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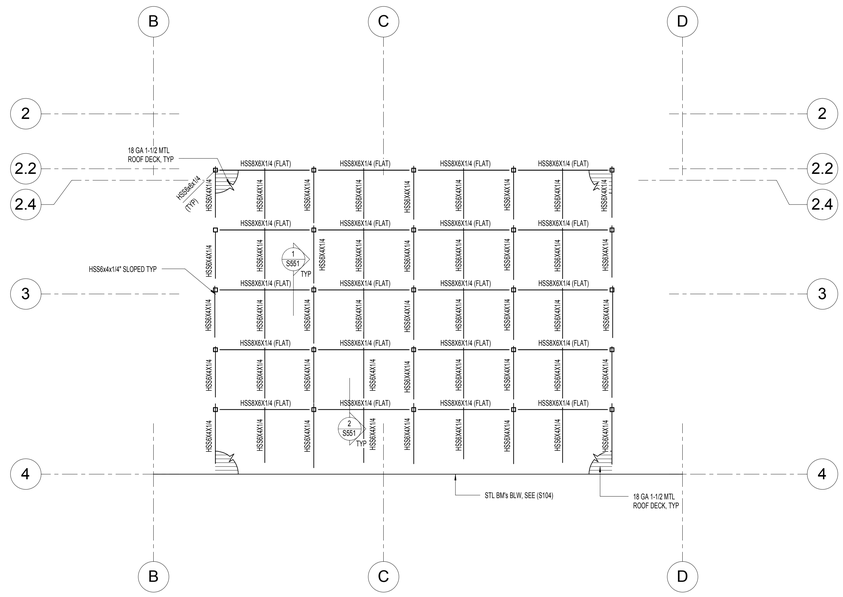
ROOF FRAMING PLAN

S104



1 / S105 SKYLIGHT FRAMING

SCALE: 1/8" = 1'-0"

MARKS AND SYMBOLS LEGEND

- SECTION MARK / SHEET NUMBER
- FRAME EL MARK FRAME
- EL ON (S201)
- MTL ROOF DECK, SEE GSN ON (S001)
- STL COL, SEE SCHED ON (S601)
- LATERAL FRAME MOMENT CONNECTIONS
- GRAVITY MOMENT CONNECTIONS
- DOUBLE SHEAR CONNECTION, SEE SCHED ON (S601)
- RD — ROOF DRAIN, SEE ARCH AND MECH FOR EXACT LOCATION

ROOF FRAMING PLAN NOTES:

1. VERIFY ROOF SLOPES, DRAINS, AND DECK BEARING ELEVATIONS WITH ARCHITECTURAL DRAWINGS. SEE ROOF FRAMING DETAILS ON SHEET (S531).
2. ALL ROOF OPENINGS SHALL BE FRAMED AS INDICATED IN ROOF FRAMING DETAILS ON SHEET (S531)
3. SEE ROOF FRAMING DETAILS ON SHEET (S531) FOR MECHANICAL UNITS HUNG BELOW JOISTS.
4. VERIFY SIZE, WEIGHT, AND LOCATION OF ALL ROOF TOP MECHANICAL UNITS WITH ARCHITECTURAL AND MECHANICAL DRAWINGS. SEE ROOF FRAMING DETAILS ON SHEET (S531) FOR STEEL FRAMES AT ALL ROOF TOP EQUIPMENT. COORDINATE OPENINGS WITH MECHANICAL, ELECTRICAL, AND GENERAL CONTRACTORS.
5. SEE SHEETS (S201) FOR MOMENT FRAME ELEVATIONS AND MOMENT FRAME DETAILS ON SHEET (S501).
6. SEE ARCHITECTURAL PLANS FOR ALL STEEL COLUMN LOCATIONS (DIMENSIONS).

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NOTE:
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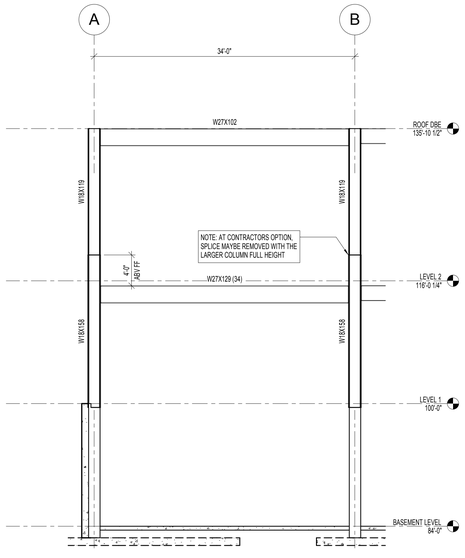
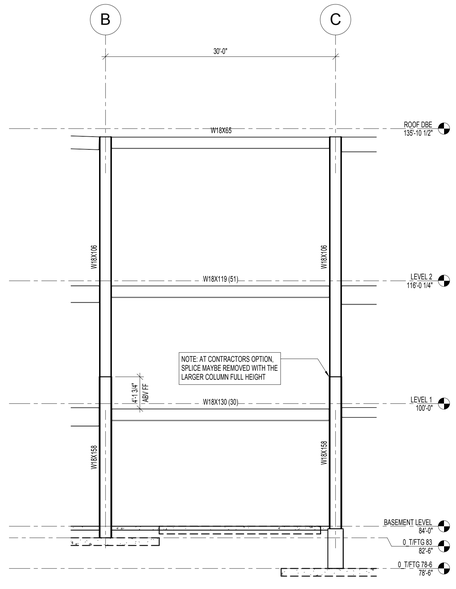
SKYLIGHT FRAMING

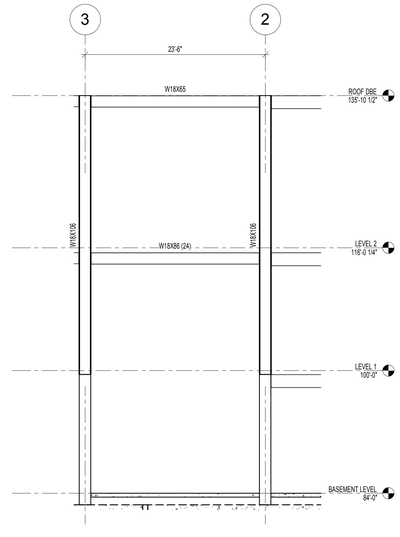
S105



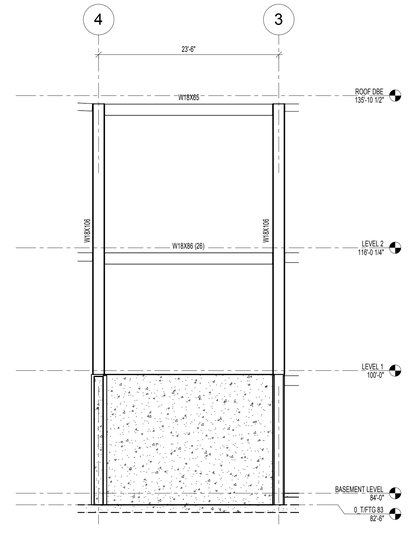
1 S201 MOMENT FRAME AT GRID 1 GRIDS A-B
SCALE: 1/8" = 1'-0"



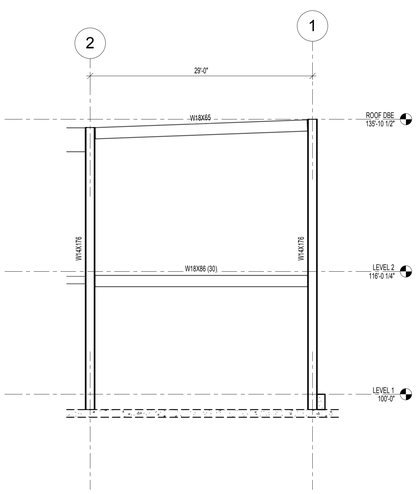
2 S201 MOMENT FRAME AT GRID 2 GRIDS B-C
SCALE: 1/8" = 1'-0"



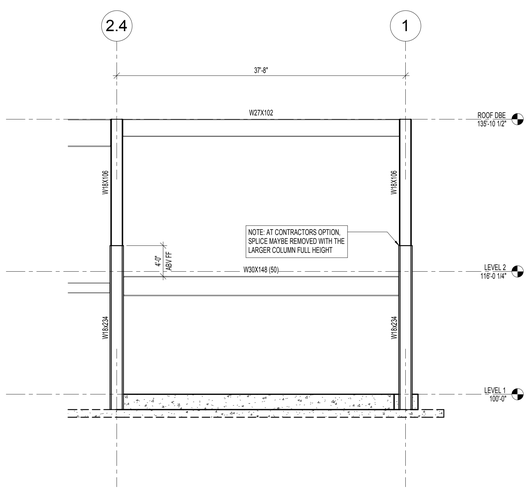
3 S201 MOMENT FRAME AT GRID A GRIDS 2-3
SCALE: 1/8" = 1'-0"



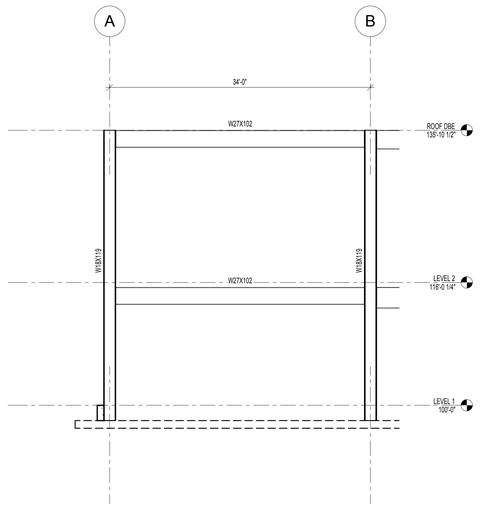
4 S201 MOMENT FRAME AT GRID B GRIDS 3-4
SCALE: 1/8" = 1'-0"



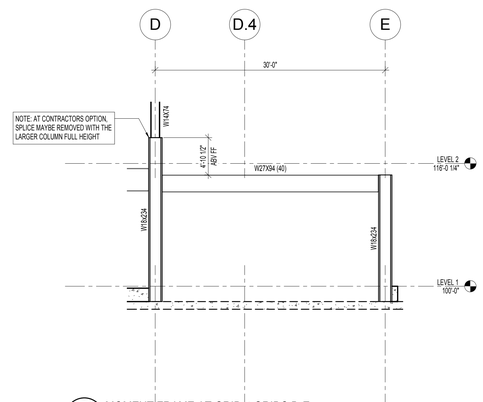
5 S201 MOMENT FRAME AT GRID D GRIDS 1-2
SCALE: 1/8" = 1'-0"



6 S201 MOMENT FRAME ELEVATION AT GRID E GRIDS 1-2.4
SCALE: 1/8" = 1'-0"



7 S201 MOMENT FRAME AT GRID 5 GRIDS A-B
SCALE: 1/8" = 1'-0"



8 S201 MOMENT FRAME AT GRID 4 GRIDS D-E
SCALE: 1/8" = 1'-0"

ELEVATION NOTES

1. ALL MEMBERS SIZED ON THIS SHEET ARE PART OF THE MOMENT FRAME. SEE GENERAL STRUCTURAL NOTES AND SPECIFIED DETAILS FOR MORE INFORMATION.
2. WHERE POSSIBLE COORDINATE FULL HEIGHT WEB STIFFENERS WITH PERPENDICULAR BEAM CONNECTIONS. SEE (/)
3. ALL MOMENT FRAME BEAM TO COLUMN CONNECTIONS ARE REDUCED BEAM CONNECTIONS. SEE SCHEDULE / DETAIL (/)
4. PROVIDE 3/4"Ø x 0'-5" HSA AT 12"o.c TYPICAL AT MOMENT FRAME BEAMS, UNLESS NOTED OTHERWISE.

ELEVATION NOTES

SECTION MARK
SHEET NUMBER

X — SIZE INDICATES CONTINUITY PL THICKNESS
X — SIZE INDICATES WEB DOUBLER PL THICKNESS

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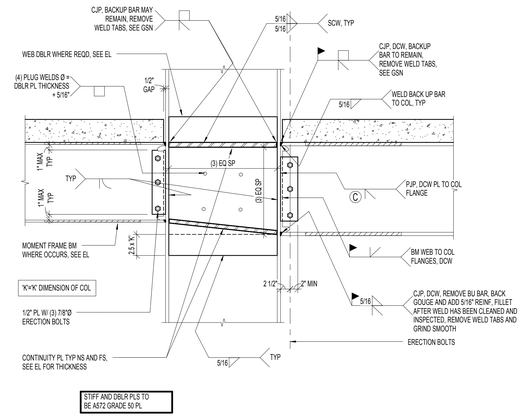
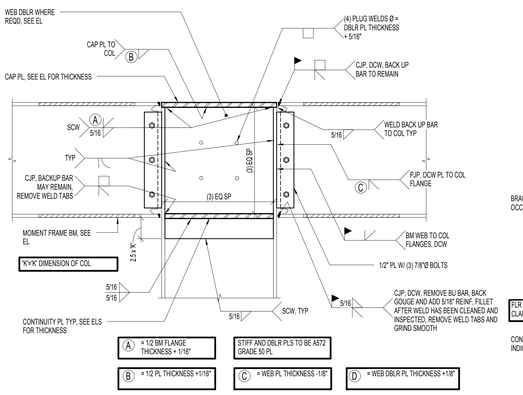
MOMENT FRAME ELEVATIONS

S201



MOMENT CONNECTION WHERE COLUMN CONTINUES UP



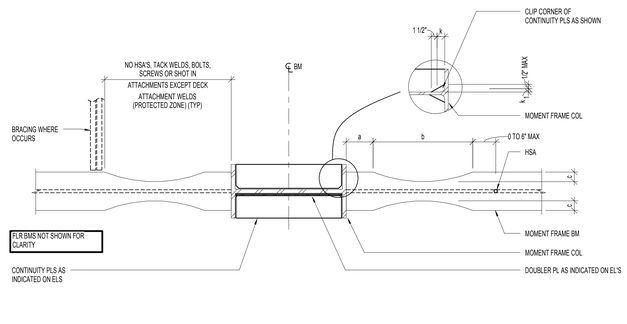
MOMENT CONNECTION AT TOP OF COLUMN

1 S501 RADIUS CUT REDUCED BEAM SECTION MOMENT CONNECTIONS

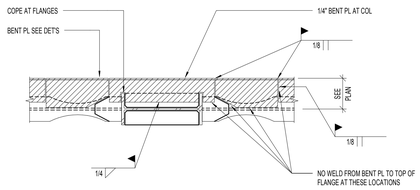
NO SCALE:

BEAM	DIMENSIONS			
	a (IN)	b (IN) APPROX	c (IN)	RADIUS
W10X26	3	6.75	1.25	5.2
W18X40	3.25	11.75	1.25	14.4
W18X50	4	12	1.5	12.75
W21X44	3.25	13.5	1.5	15.9
W21X62	4.25	13.75	1.5	16.5
W24X76	4.5	15.75	2	16.5

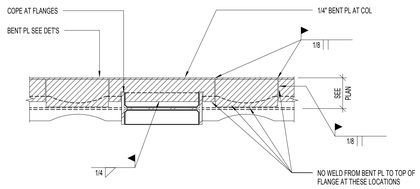
NOTES:
1. COPE TOP AND BOTT BM FLANGES IN CIRCULAR ARC AS SHOWN. CUT EDGE TO BE GROUND SMOOTH W/ GRINDING PARALLEL TO FLANGE. SEE GSN, ALL SHOP DRAWINGS TO CLEARLY NOTE FINISH REQUIREMENTS.
2. CONSTRUCTION SEQUENCE:
   A. SNUG TIGHTEN ERECTION BOLTS.
   B. WELD TOP AND BOTTOM BEAM FLANGES.
   C. WELD BEAM WEB.
3. CUT TOLERANCES ARE AS FOLLOWS:
   A. ± 1/4"



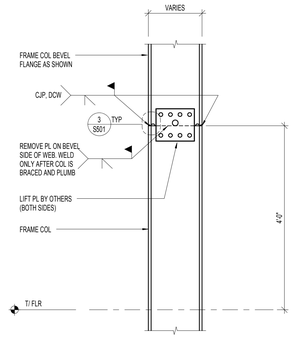
MOMENT CONNECTION SECTIONS



BENT PLATE AT FLOOR

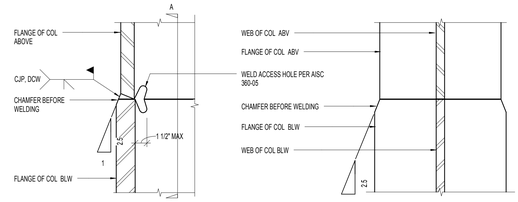


BENT PLATE AT ROOF



2 S501 TYPICAL COL SPLICE OF "W" COLS AT MOMENT AND BRACED FRAMES

NO SCALE:



SECTION A-A

3 S501 TRANSITION DETAIL

NO SCALE:

MAY 16, 2012
50% Review Submittal

NOTE:
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REVISIONS:

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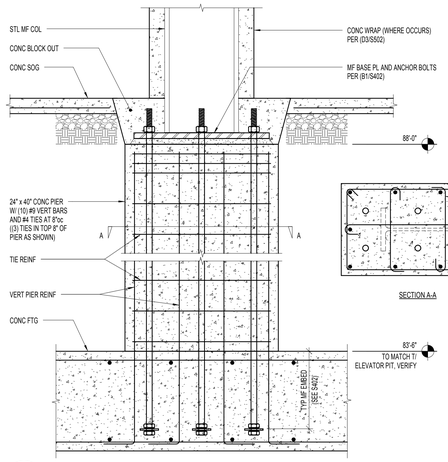
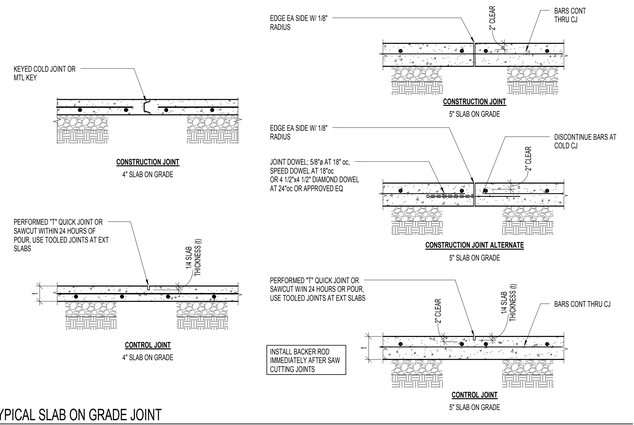
DRAWN BY:	J RALEIGH SMITH
DESIGNED BY:	DAVID DUNN
CHECKED BY:	-
DUNN PROJECT NO.:	10160
ISSUED DATE:	MAY 16, 2012

MOMENT FRAME DETAILS

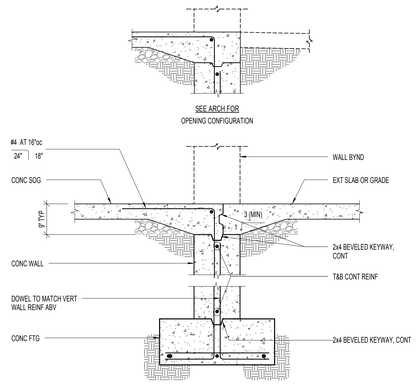
S501



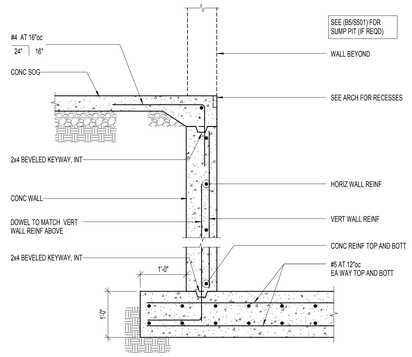
1 S511 MOMENT FRAME COLUMN ON PIER NEAR ELEVATOR PIT
NO SCALE:



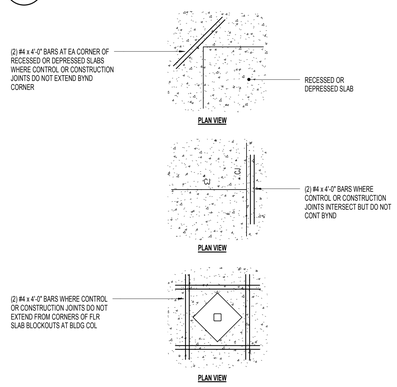
2 S511 TYPICAL SLAB ON GRADE JOINT
NO SCALE:



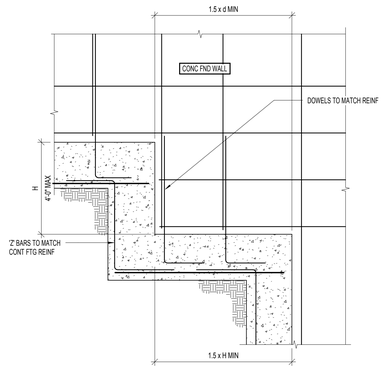
3 S511 FOUNDATION WALL OPENING DETAIL
NO SCALE:



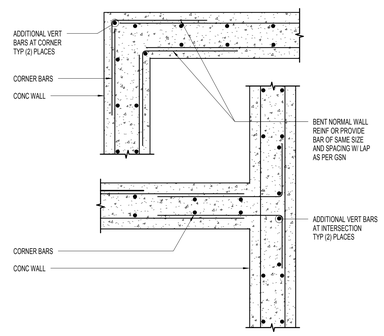
4 S511 TYPICAL ELEVATOR PIT DETAIL
NO SCALE:



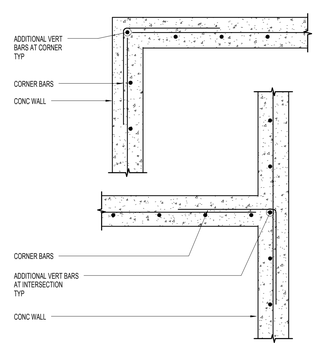
5 S511 TYPICAL LOCATIONS REQUIRING ADDITIONAL SLAB REINFORCING STEEL
NO SCALE:



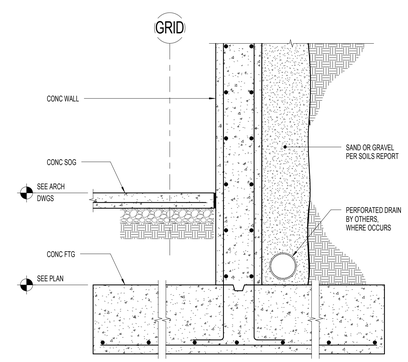
6 S511 TYPICAL FOOTING STEP AT CONCRETE FOUNDATION WALL
NO SCALE:



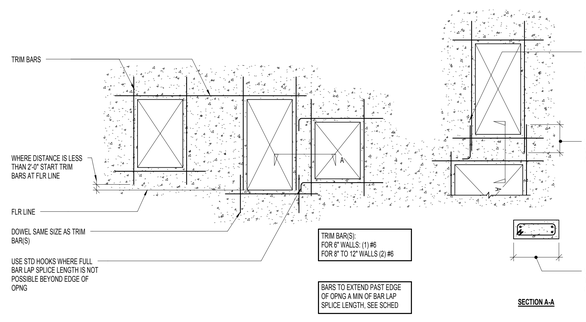
7 S511 TYPICAL CORNER WALL REINFORCING FOR DOUBLE LAYER REINFORCED CONCRETE WALLS
NO SCALE:



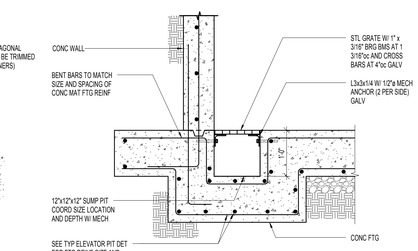
8 S511 TYPICAL CORNER WALL REINFORCING FOR SINGLE LAYER REINFORCED CONCRETE WALLS
NO SCALE:



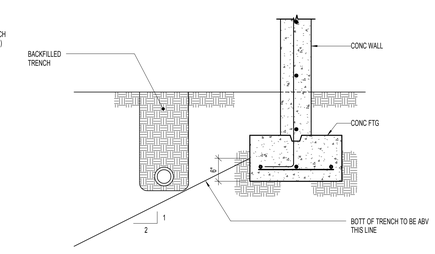
9 S511 TYPICAL EXTERIOR BASEMENT WALL
NO SCALE:



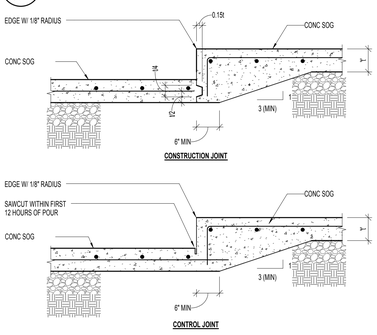
10 S511 TYPICAL TRIM BARS AROUND MISCELLANEOUS CONCRETE WALL OPENINGS UNLESS NOTED OTHERWISE
NO SCALE:



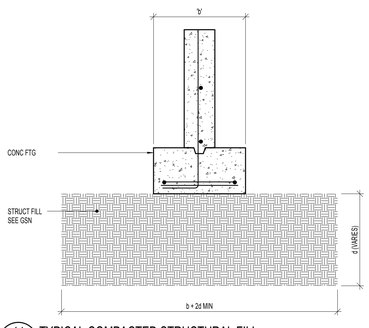
11 S511 SUMP IN ELEVATOR PIT
NO SCALE:



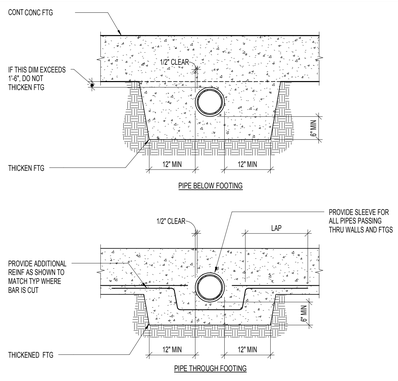
12 S511 TYPIC PIPE PARALLEL TO FOOTING
NO SCALE:



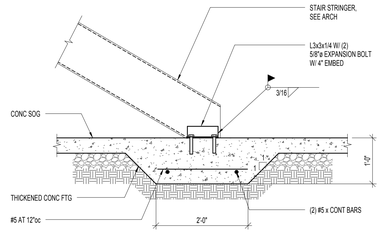
13 S511 TYPICAL SLAB ON GRADE DEPRESSION
NO SCALE:



14 S511 TYPICAL COMPACTED STRUCTURAL FILL
NO SCALE:



15 S511 TYPICAL PIPE PERPENDICULAR TO FOOTING
NO SCALE:



16 S511 TYPICAL THICKENED SLAB AT BASE OF STAIRS
NO SCALE:

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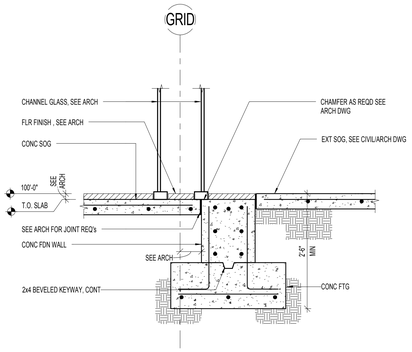
DESIGNED BY:	DAVID DUNN
CHECKED BY:	-
DUNN PROJECT NO.:	10160
ISSUED DATE:	MAY 16, 2012

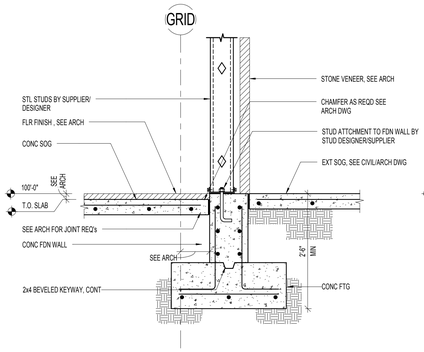
FOOTING AND FOUNDATION DETAILS

S511



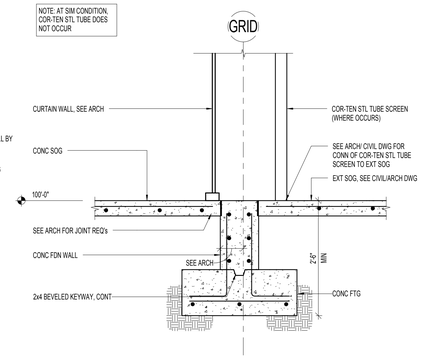
RE: 1/AE307

1 S512 TYPICAL EXTERIOR FOUNDATION DETAIL
NO SCALE:

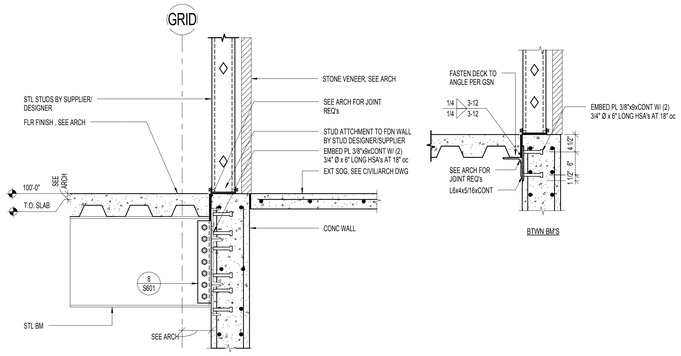


RE: 2/AE301, 2/AE302, 4/AE301

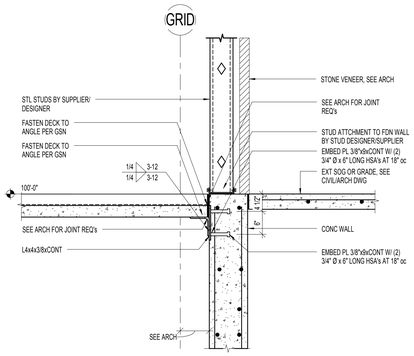
2 S512 TYPICAL EXTERIOR FOUNDATION DETAIL
NO SCALE:



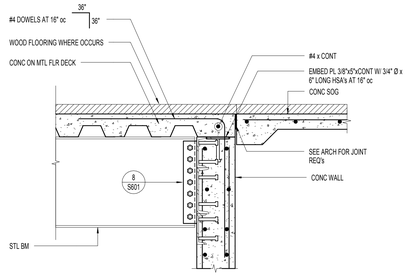
3 S512 TYPICAL EXTERIOR FOUNDATION DETAIL
NO SCALE:



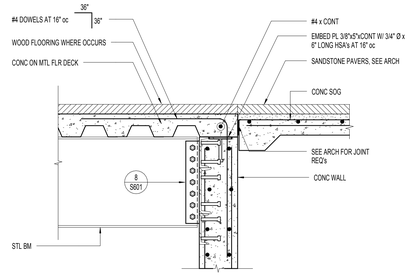
4 S512 TYPICAL EXTERIOR DETAIL AT LEVEL 1
NO SCALE:



5 S512 TYPICAL DECK BEARING AT BASEMENT WALL
NO SCALE:



6 S512 TYPICAL INTERIOR DETAIL AT BASEMENT WALL
NO SCALE:



7 S512 TYPICAL INTERIOR DETAIL AT BASEMENT WALL (ALTERNATE #1)
NO SCALE:

8 S512 512-08
NO SCALE:

9 S512 512-09
NO SCALE:

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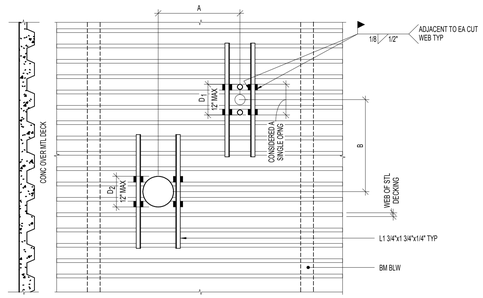
DESIGNED BY:	DAVID DUNN
CHECKED BY:	-
DUNN PROJECT NO.:	10160
ISSUED DATE:	MAY 16, 2012

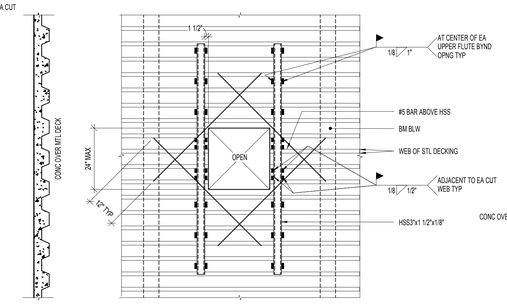
FOOTING AND FOUNDATION DETAILS

S512



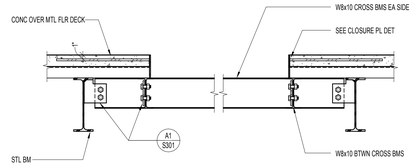
NOTES:
1. THIS DETAIL APPLIES TO HOLES CUTTING NO MORE THAN (2) ADJACENT WEBS FOR 12" MODULE DECK.
2. OPENINGS SHALL BE BLOCKED OUT AND THE DECK LEFT INTACT. AFTER THE CONCRETE HAS CURED, THE DECK IN THE AREA OF THE OPENING CAN BE REMOVED.
3. ANGLES SHALL BE PLACED ON TOP OF THE DECK, ANGLES SHAL EXTEND 3 WEBS PAST THE DECK OPENING (TYP)
   IF DIMENSION A IS >40 $_1$, 40 $_2$ OR 32" WHICHEVER IS LARGER, THERE IS NO RESTRICTION ON DIMENSION B
   IF DIMENSION B IS >40 $_1$, 40 $_2$ OR 32" WHICHEVER IS LARGER, THERE IS NO RESTRICTION ON DIMENSION A
4. IF DIMENSIONS A AND B ARE <40 $_1$, 40 $_2$ OR 32" WHICHEVER IS LARGER, THE OPENING GROUP SHALL BE CONSIDERED AS A SINGLE HOLE, AND SHALL BE REINFORCED AS REQUIRED FOR LARGER OPENING , SEE FOLLOWING DETAIL.
5. INDIVIDUAL HOLES LESS THAN 6" IN DIAMETER AND CUTTING NO MORE THAN ONE WEB DO NOT REQUIRE REINFORCING.

1 S521 TYPICAL 12" OR LESS OPENING IN FLOOR SLAB
NO SCALE:

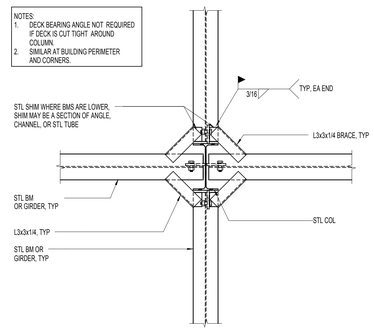


NOTES:
1. THIS DETAIL APPLIES TO OPENING UP TO 24".
2. TUBES SHALL BE PLACED ON TOP OF DECK.
3. THE DECK SHALL NOT BE CUT UNTIL CONCRETE HAS BEEN PLACED AND CURED. AT THE TIME OF POURING, SUITABLE SLEEVES OR BULKHEADS SHALL BE PLACED AROUND THE OPENING.
4. SEE FOLLOWING DETAIL IF OPENING IS GREATER THAN 24".

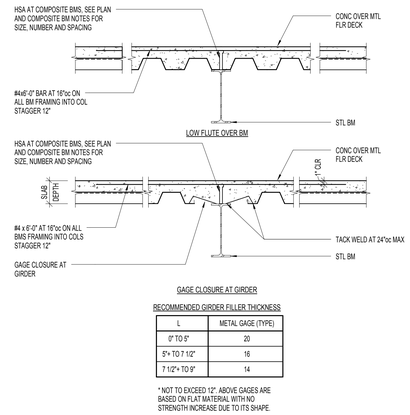
2 S521 TYPICAL 24" OR LESS OPENING IN FLOOR SLAB
NO SCALE:



3 S521 TYPICALGREATER THAN 24" FLOOR OPENING DETAIL
NO SCALE:



4 S521 TYPICAL DECK BEARING ANGLES AT COLUMNS (WHERE REQUIRED)
NO SCALE:



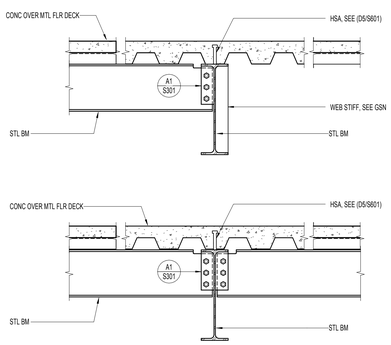
GAGE CLOSURE AT GIRDER

RECOMMENDED GIRDER FILLER THICKNESS

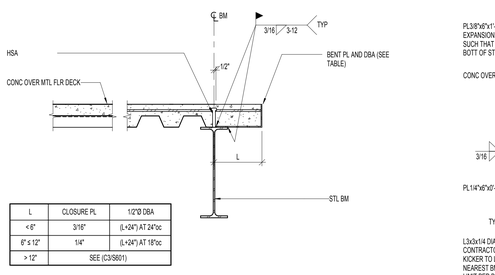
L	METAL GAGE (TYPE)
0" TO 5"	20
5"+ TO 7 1/2"	16
7 1/2"+ TO 9"	14

* NOT TO EXCEED 12". ABOVE GAGES ARE BASED ON FLAT MATERIAL WITH NO STRENGTH INCREASE DUE TO ITS SHAPE.

5 S521 TYPICAL COMPOSITE BEAM DETAILS
NO SCALE:

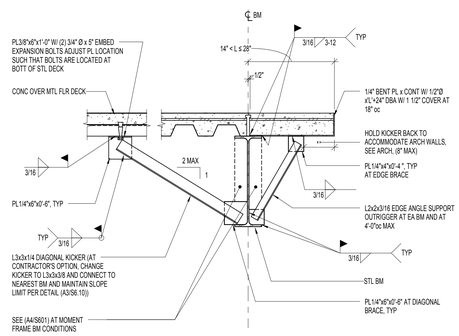


6 S521 TYPICAL STEEL BEAM TO STEEL BEAM CONNECTION DETAILS
NO SCALE:

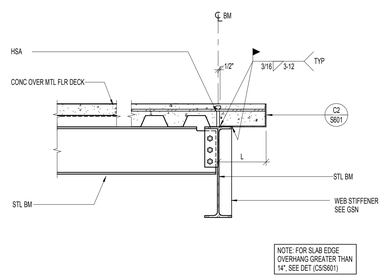


L	CLOSURE PL	1/2"Ø DBA
< 6"	3/16"	(L+24") AT 24"oc
6" ≤ 12"	1/4"	(L+24") AT 18"oc
> 12"	SEE (C3/S601)	

7 S521 TYPICAL CLOSURE PLATE (OVERHANG L ≤ 14")
NO SCALE:

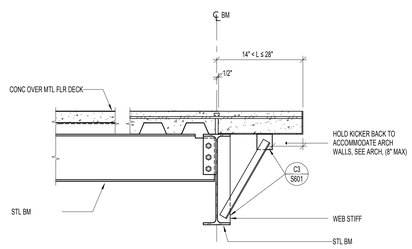


8 S521 TYPICAL CLOSER PLATE (OVERHANG 12" < L ≤ 28")
NO SCALE:

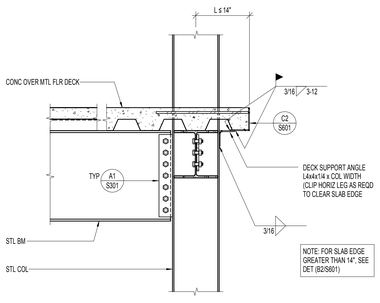


NOTE: FOR SLAB EDGE OVERHANG GREATER THAN 14", SEE DET (C5/S601)

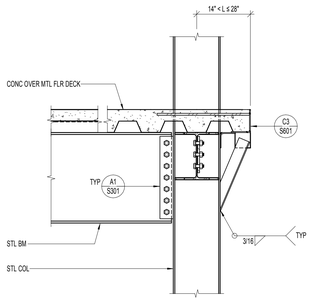
9 S521 TYPICAL SLAB EDGE CONDITION AT BEAM (OVERHANG L ≤ 12")
NO SCALE:



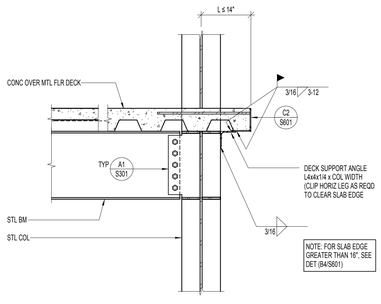
10 S521 TYPICAL SLAB EDGE CONDITION AT BEAM (OVERHANG 12" < L ≤ 28"
NO SCALE:



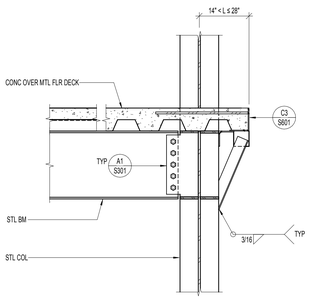
11 S521 TYPICAL SLAB EDGE AT STEEL COLUMN FLANGE (OVERHANG L ≤ 12")
NO SCALE:



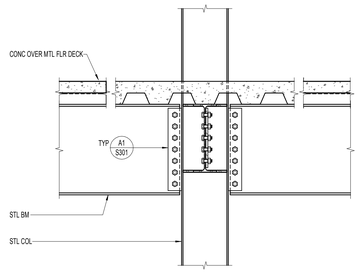
12 S521 TYPICAL SLAB EDGE AT STEEL COLUMN FLANGE (OVERHANG 12"< L ≤ 28")
NO SCALE:



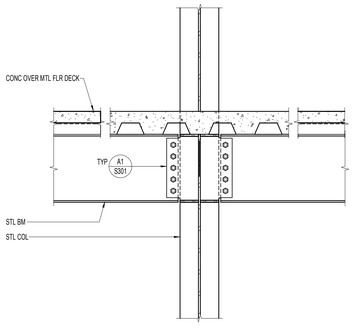
13 S521 TYPICAL SLAB EDGE AT STEEL COLUMN WEB (OVERHANG L ≤ 12")
NO SCALE:



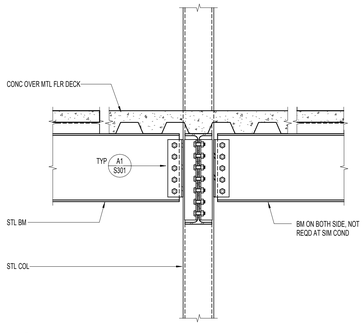
14 S521 TYPICAL SLAB EDGE AT STEEL COLUMN WEB (OVERHANG 12" < L ≤ 28")
NO SCALE:



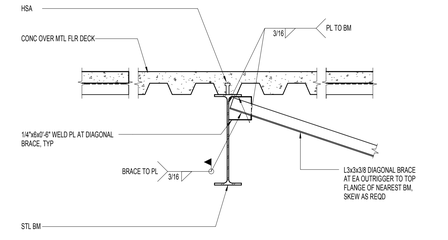
15 S521 TYPICAL BOLTED CONNECTION TO STEEL COLUMN FLANGE
NO SCALE:



16 S521 TYPICAL BOLTED CONNECTION TO STEEL COLUMN WEB
NO SCALE:

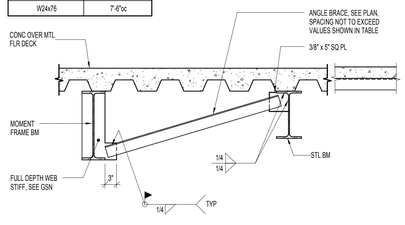


17 S521 TYPICAL BOLTED CONNECTION TO TUBE COLUMN
NO SCALE:



18 S521 TYPICAL KICKER CONNECTION DETAIL AT STEEL BEAM
NO SCALE:

MOMENT FRAME BM SIZE	MAX ANGLE SPACING
W10x26	5'-6"oc
W18x50	5'-0"oc
W21x44	5'-0"oc
W21x62	7'-0"oc
W24x76	7'-6"oc



19 S521 MOMENT FRAME BEAM BRACING
NO SCALE:

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REVISIONS:

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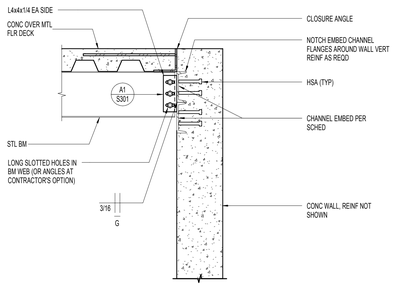
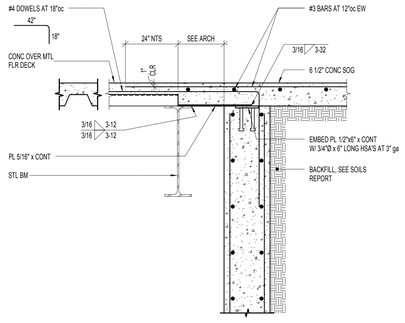
DESIGNED BY:	DAVID DUNN
CHECKED BY:	-
DUNN PROJECT NO.:	10160
ISSUED DATE:	MAY 16, 2012

FLOOR FRAMING DETAILS

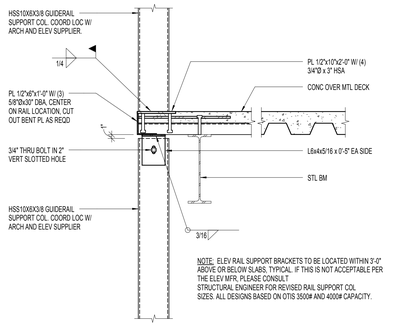
S521



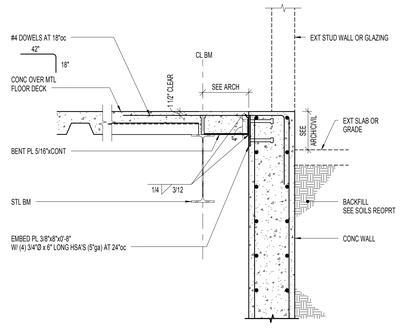
1 S522 BEAM TO CONCRETE WALL
NO SCALE:



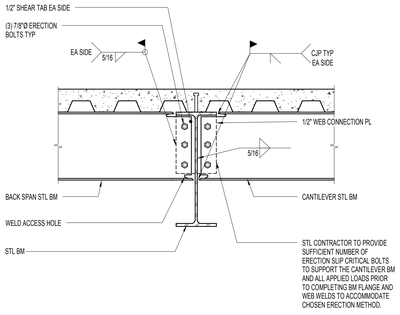
2 S522 INTERIOR SLAB ON GRADE AT WALL
NO SCALE:



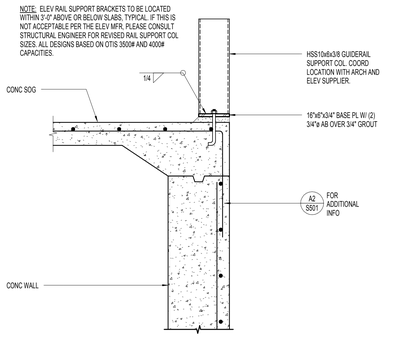
3 S522 ELEVATOR GUIDE RAIL SUPPORT AT EDGE BEAM
NO SCALE:



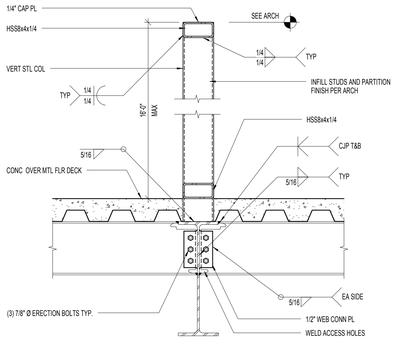
4 S522 TYPICAL STEEL BEAM AT PERIMETER
NO SCALE:



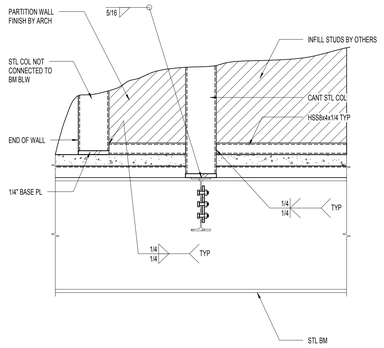
5 S522 CANTILEVER BEAM CONNECTION AT BEAM
NO SCALE:



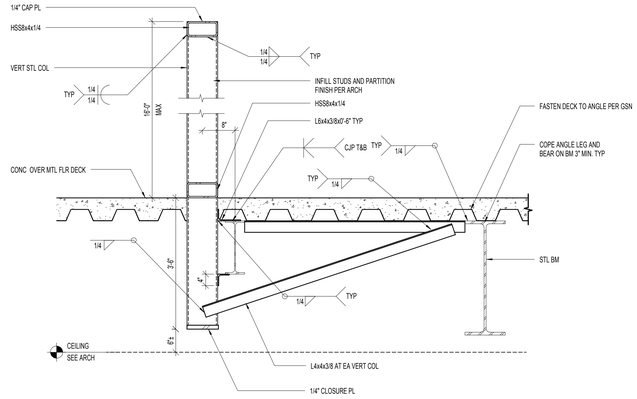
6 S522 ELEVATOR GUIDE RAIL SUPPORT AT FOUNDATION
NO SCALE:



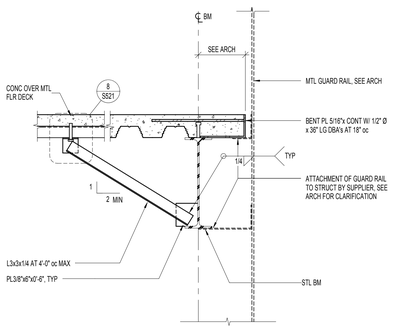
7 S522 TYPICAL EXBIHIT PARTITION SUPPORT DETAIL FOR WALL OFF GRID
NO SCALE:



8 S522 TYPICAL EXHIBIT PARTITION SUPPORT DETAIL FOR WALL OFF GRID
NO SCALE:



9 S522 TYPICAL CANTILEVER STEEL COLUMN WITHIN EXHIBIT PARTITION
NO SCALE:



10 S522 TYPICAL METAL RAILING CONNECTION
NO SCALE:

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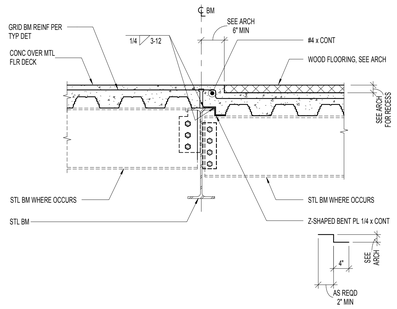
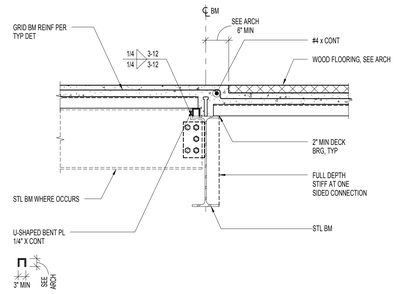
DESIGNED BY:	DAVID DUNN
CHECKED BY:	-
DUNN PROJECT NO.:	10160
ISSUED DATE:	MAY 16, 2012

FLOOR FRAMING DETAILS

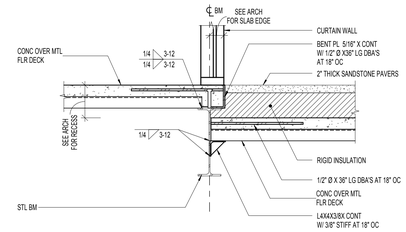
S522



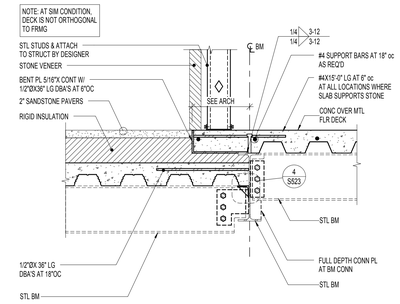
1 S523 TYPICAL WOOD FLOORING TRANSITION DETAIL (DECK PARALLEL)
NO SCALE:



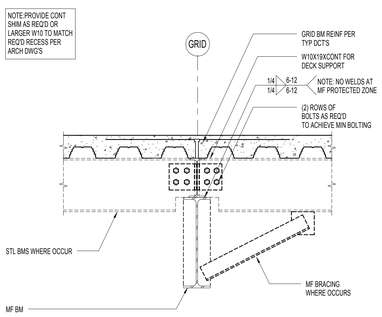
2 S523 TYPICAL WOOD FLOORING TRANSITION DETAIL (DECK PERPENDICULAR)
NO SCALE:



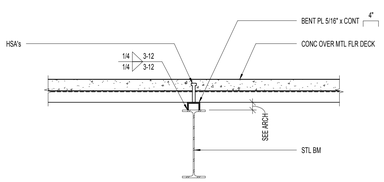
4 S523 TYPICAL STEP AT TERRACE
NO SCALE:



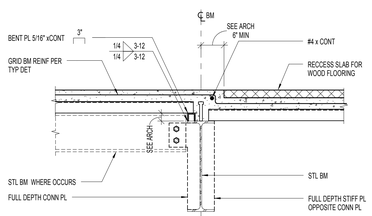
5 S523 TYPICAL SLAB RECESS DETAIL AT TERRACE
NO SCALE:



6 S523 TYPICAL BLOCKING OVER STEEL BEAM HELD LOW
NO SCALE:



7 S523 TYPICAL BENT PLATE BLOCKING ABOVE BEAM HELD LOW
NO SCALE:



8 S523 TYPICAL SLAB RECESS AT STEEL BEAM
NO SCALE:

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FLOOR FRAMING DETAILS

S523

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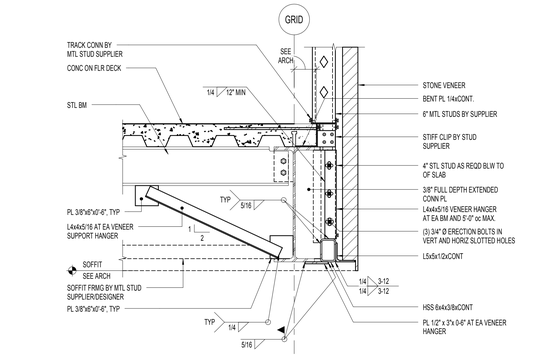
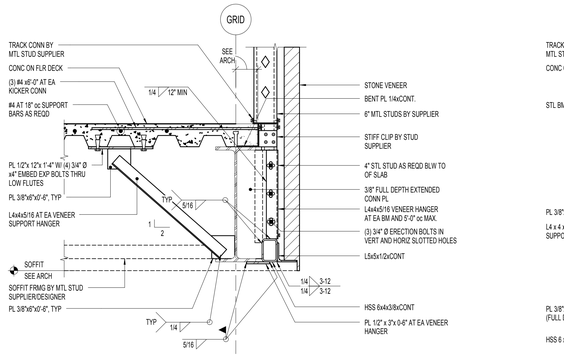
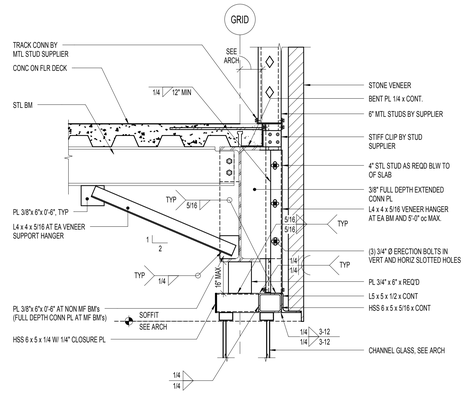


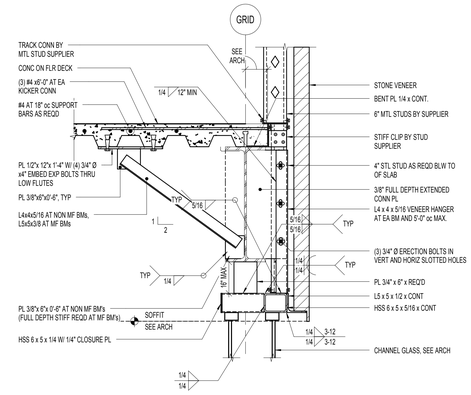
1 S524 TYPICAL EXTERIOR SOFFIT DETAIL AT BEAM TO BEAM CONNECTION
NO SCALE:



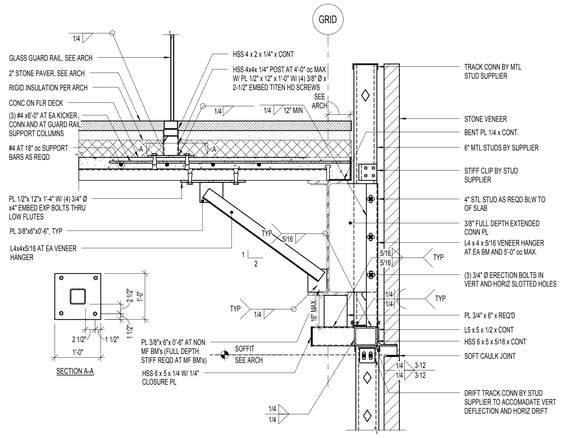
2 S524 TYPICAL EXTERIOR SOFFIT DETAIL BETWEEN BEAMS
NO SCALE:



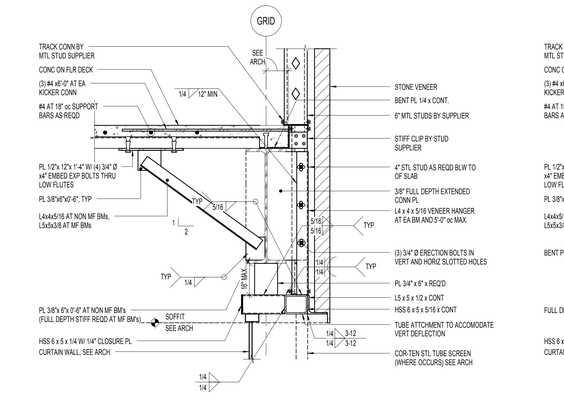
3 S524 TYPICAL EXTERIOR DETAIL AT CHANNEL GLASS
NO SCALE:



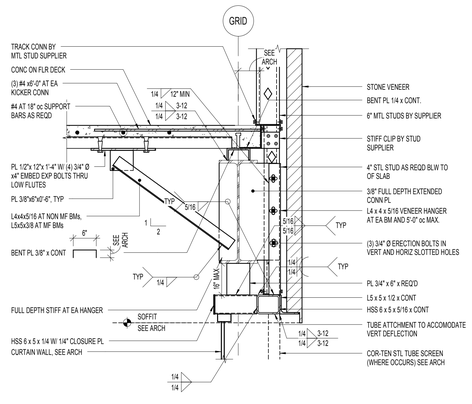
4 S524 TYPICAL EXTERIOR DETAIL AT CHANNEL GLASS
NO SCALE:



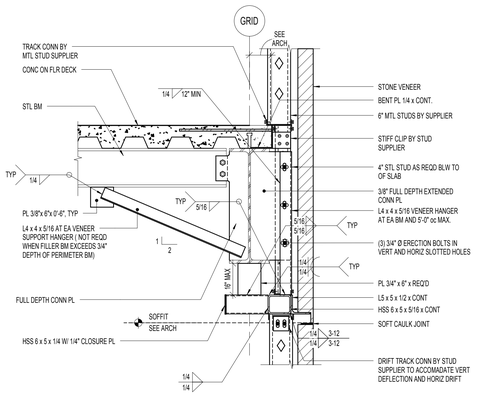
5 S524 TYPICAL EXTERIOR DETAIL AT TERRACE
NO SCALE:



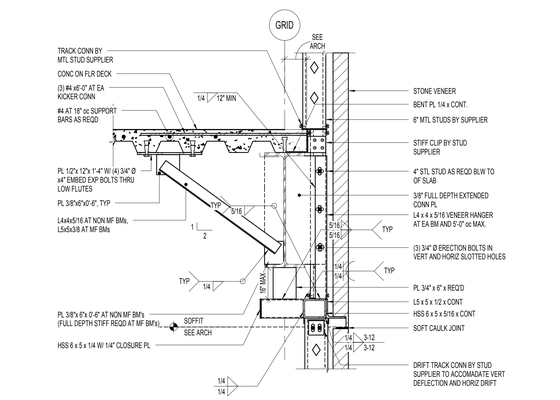
6 S524 TYPICAL EXTERIOR DETAIL AT RECESSED CURTAIN WALL
NO SCALE:



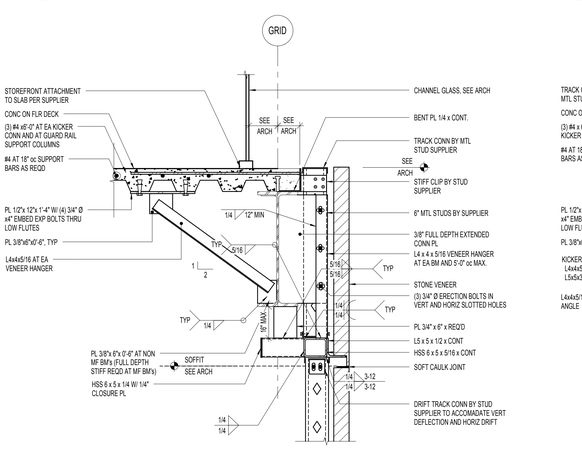
7 S524 TYPICAL EXTERIOR DETAIL AT RECESSED CURTAIN WALL AND ELEVATED SLAB
NO SCALE:



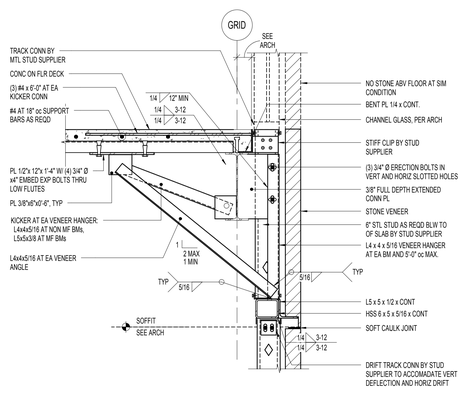
8 S524 TYPICAL EXTERIOR DE4TAIL HORIZONTAL JOINT IN SOLID STONE WALL
NO SCALE:



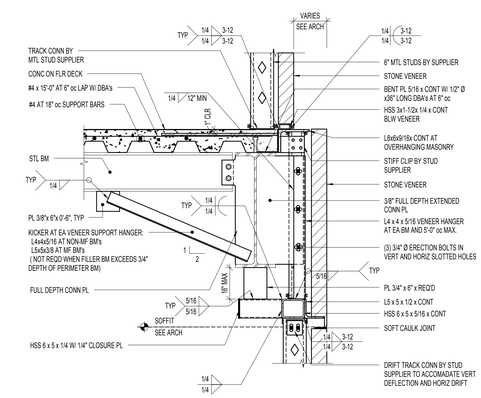
9 S524 TYPICAL EXTERIOR DETAIL HORIZONTAL JOINT IN SOLID STONE WALL (BETWEEN BEAMS)
NO SCALE:



10 S524 TYPICAL EXTERIOR DETAIL AT RECCESSED GLASS ON SECOND FLOOR
NO SCALE:



11 S524 TYPICAL EXTERIOR DETAQIL AT SHALLOW PERIMETER BEAM
NO SCALE:



12 S524 TYPICAL EXTERIOR DETAIL AT WALL CHANGING PLANES
NO SCALE:

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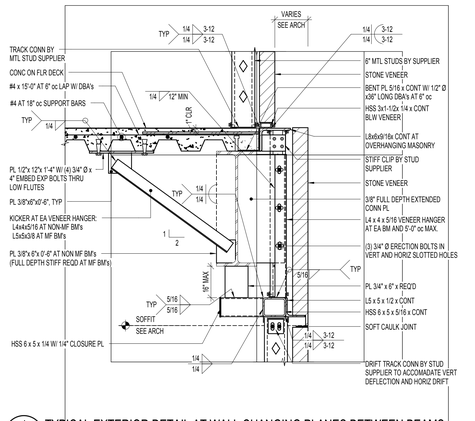
CHECKED BY:	-
DUNN PROJECT NO.:	10160
ISSUED DATE:	MAY 16, 2012

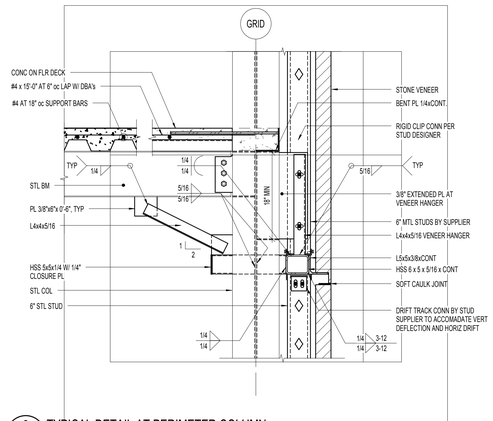
FLOOR FRAMING DETAILS

S524



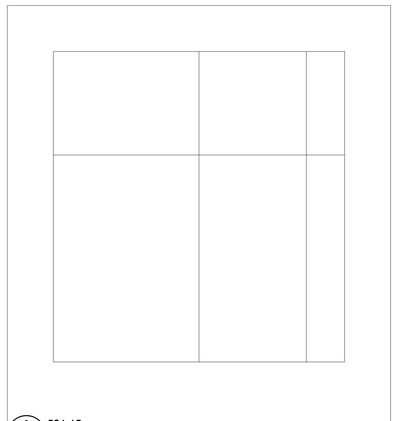
1 S525 TYPICAL EXTERIOR DETAIL AT WALL CHANGING PLANES BETWEEN BEAMS

NO SCALE:



2 S525 TYPICAL DETAIL AT PERIMETER COLUMN

NO SCALE:



3 S525 524-15

NO SCALE:

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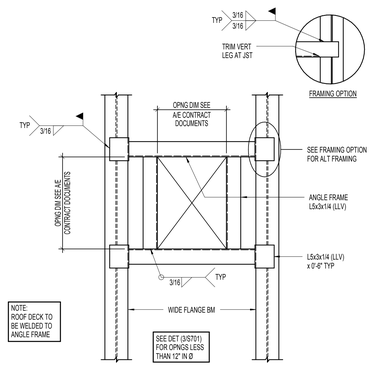
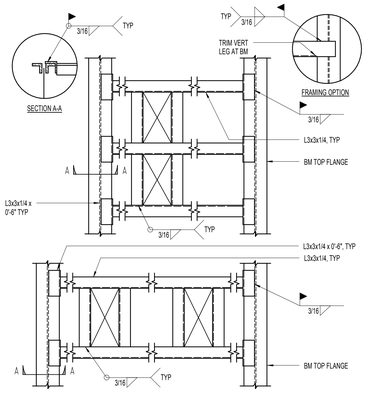
CHECKED BY:	-
DUNN PROJECT NO.:	10160
ISSUED DATE:	MAY 16, 2012

FLOOR FRAMING DETAILS

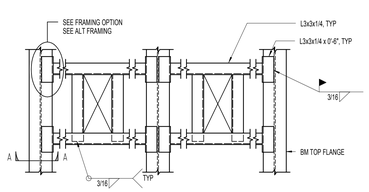
S525

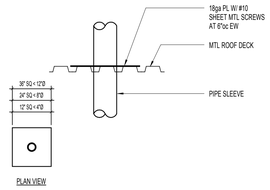


1 S531 TYPICAL ROOF TOP MECHANICAL UNIT SUPPORT DETAIL FOR MECHANICAL UNITS WEIGHING LESS THAN 700#
NO SCALE:

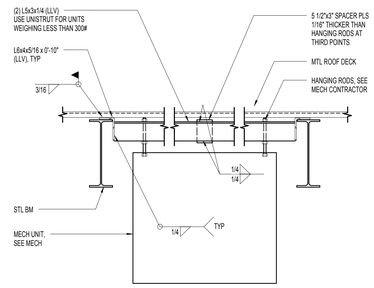


2 S531 TYPICAL ROOF DRAIN SUPPORT DETAIL (PLAN VIEW)
NO SCALE:





3 S531 TYPICAL PIPE SLEEVE HOLE DETAIL (12" DIA OR LESS) THROUGH ROOF DECK, (SEE (2/S701) FOR ROOF DRAIN SUPPORT FRAMING)
NO SCALE:



4 S531 HANGING MECHANICAL UNIT DETAIL
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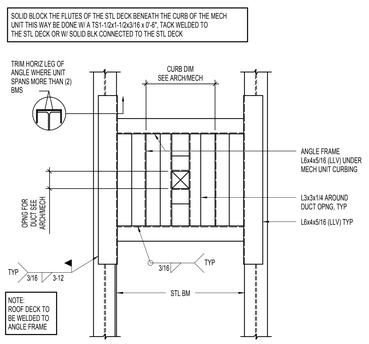
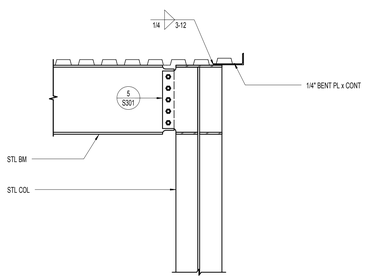


5 S531 TYPICAL ROOF TOP MECHANICAL UNIT SUPPORT DETAIL SEE (1/S701) FOR UNITS WEIGHING LESS THAN 700#
NO SCALE:



6 S531 ROOF FRAMING DETAIL
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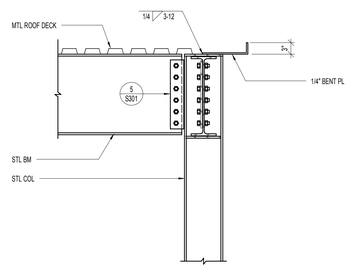

7 S531 ROOF FRAMING DETAIL
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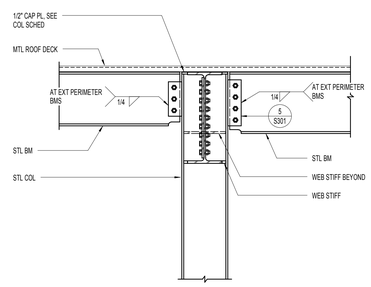
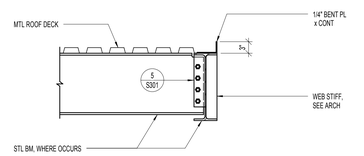


8 S531 ROOF BEAM COLUMN CONNECTION
NO SCALE:



9 S531 DETAIL
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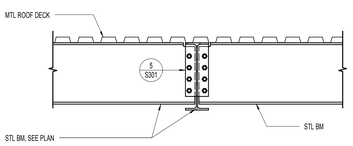

10 S531 DETAIL
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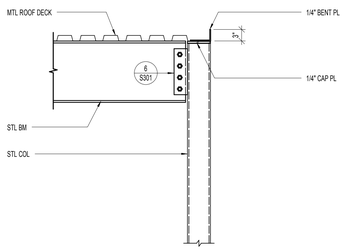

11 S531 HSS COLUMN/BEAM(S) DETAIL AT ROOF FRAMING
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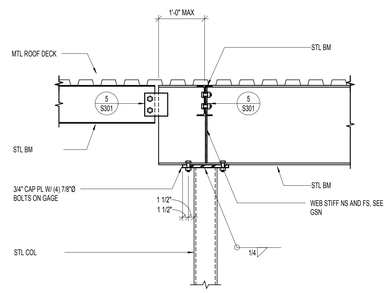
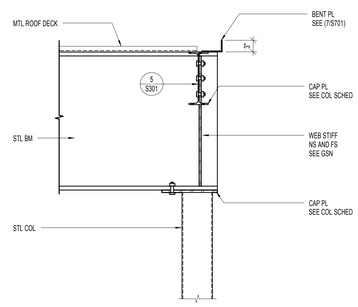


12 S531 BEAM TO HSS COLUMN AT ROOF
NO SCALE:



13 S531 ROOF BEAM AT HSS COLUMN
NO SCALE:

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CHECKED BY:	-
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ROOF FRAMING DETAILS

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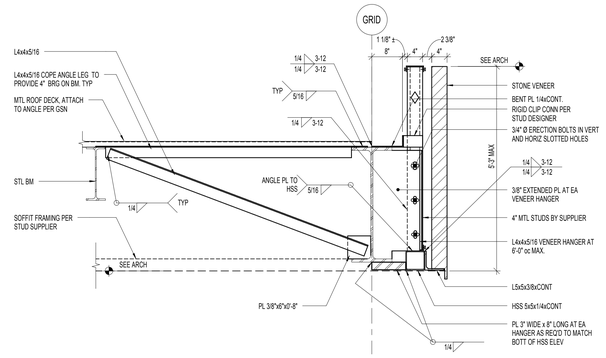
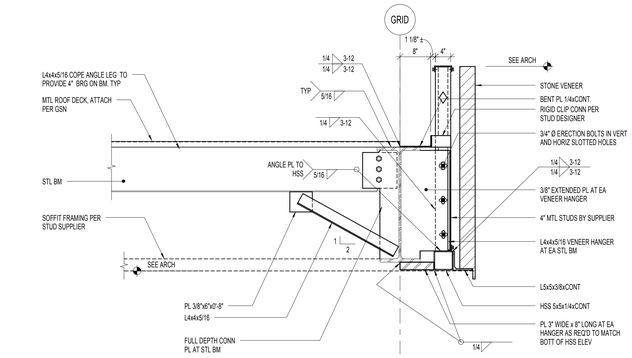
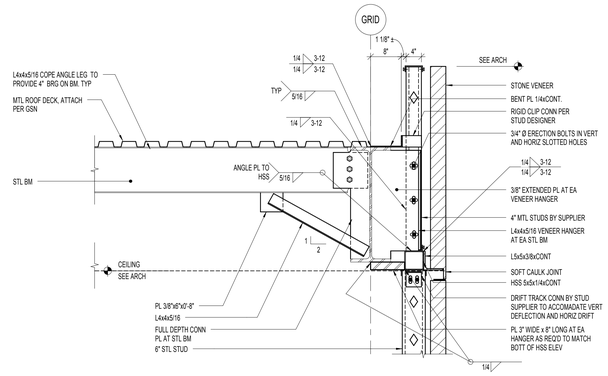


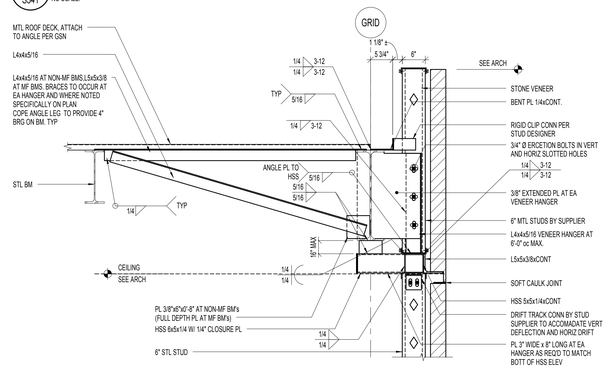
1 S541 TYPICAL DEEP ROOF BEAM AT EXTERIOR SOFFIT
NO SCALE:



2 S541 TYPICAL DEEP ROOF BEAM AT EXTERIOR SOFFIT AT STEEL BEAM
NO SCALE:



3 S541 TYPICAL DEEP ROOF BEAM AT EXTERIOR STUD WALL
NO SCALE:



4 S541 TYPICAL EXTERIOR ROOF DETAIL (DECK PERPENDICULAR)
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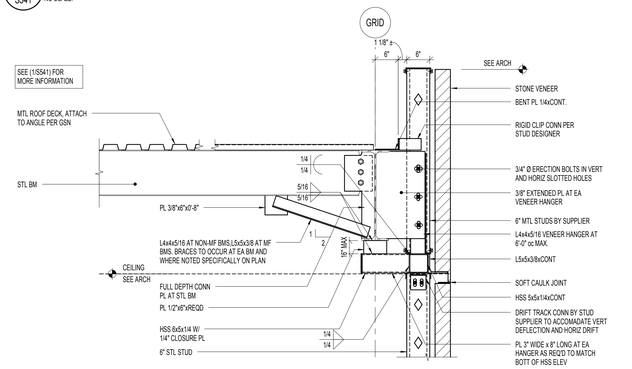

5 S541 TYPICAL EXTERIOR ROOF DETAIL AT BEAM CONNECTION
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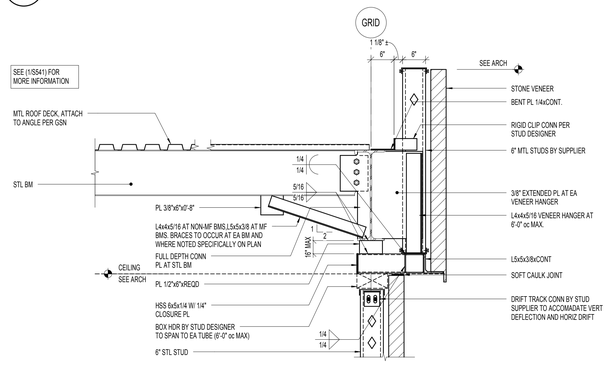

6 S541 TYPICAL EXTERIOR ROOF DETAIL AT BEAM CONNECTION AT RECCESS WALL
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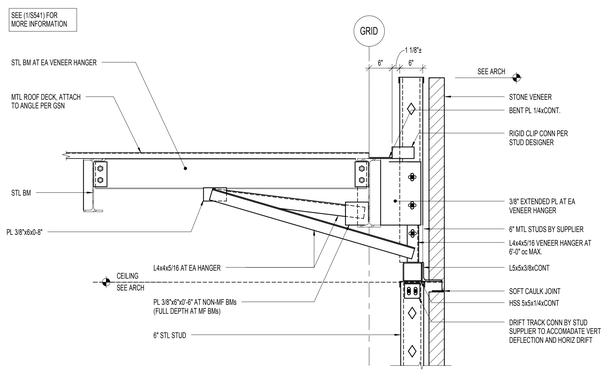
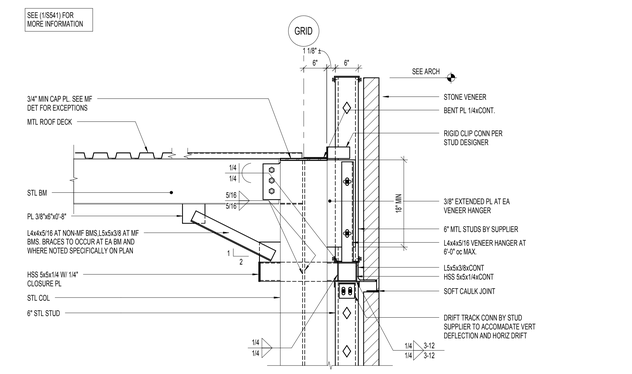


7 S541 TYPICAL EXTERIOR ROOF DETAIL AT SHALLOW BEAM (DECK PERPENDICULAR)
NO SCALE:



8 S541 TYPICAL DETIAL AT EXTERIOR COLUMN
NO SCALE:

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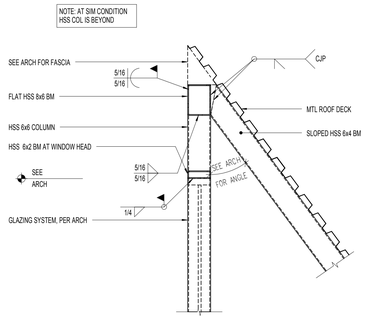
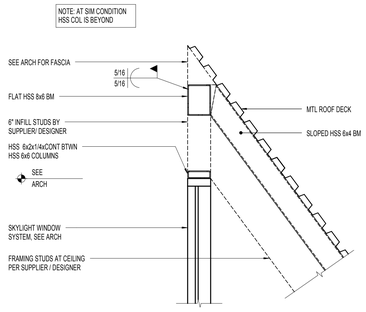
ROOF FRAMING DETAILS

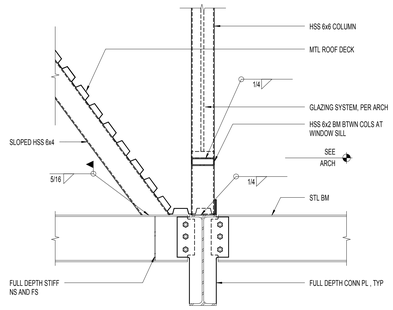
S541



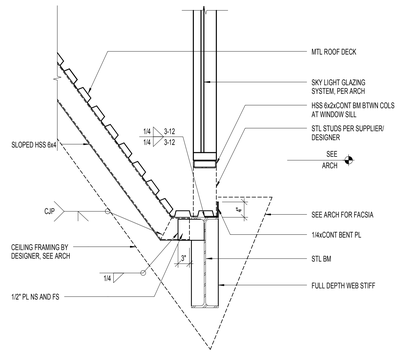
1 S551 TYPICAL SKYLIGHT FRAMING CONN DETAIL
NO SCALE:



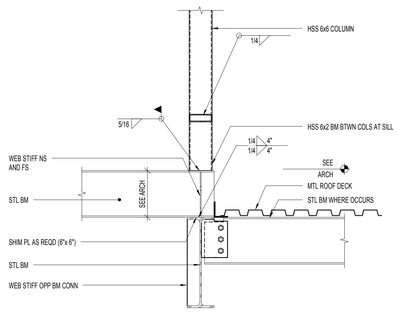
2 S551 TYPICAL SKYLIGHT FRAMING CONNECTION BETWEEN COLUMN
NO SCALE:



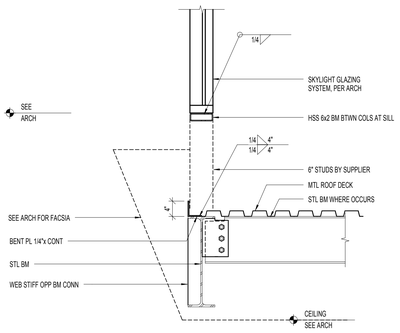
3 S551 TYPICAL SKYLIGHT DETAIL AT COLUMN ABOVE
NO SCALE:



4 S551 TYPICAL SKYLIGHT DETAIL BETWEEN COLUMNS
NO SCALE:



5 S551 TYPICAL EXTERIOR SKYLIHGT DETAIL
NO SCALE:



6 S551 TYPICAL EXTERIOR SKYLIGHT DETAIL BETWEEN COLUMNS
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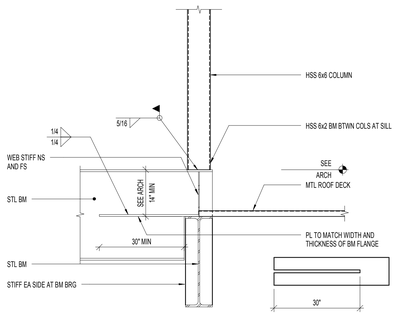

7 S551 TYPICAL SEATED CONN AT SKYLIHGT EXTERIOR
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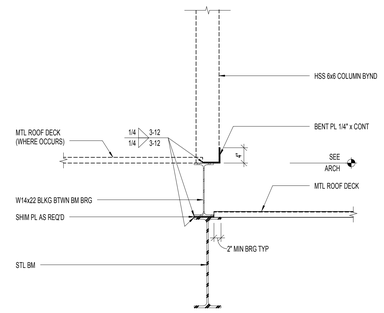

8 S551 TYPICAL BLOCKING BETWEEN BEAM BEARING AT SKYLIGHT DETAIL
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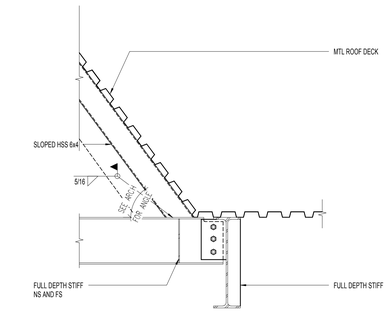
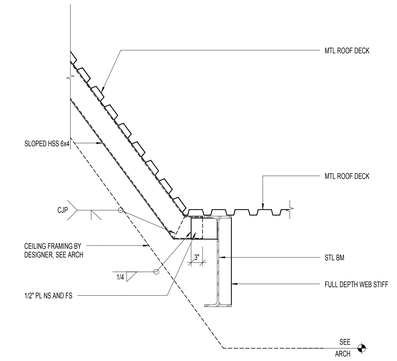


9 S551 TYPICAL SKYLIGHT TO LOW ROOF TRANSITION
NO SCALE:



10 S551 TYPICAL SKYLIGHT TO LOW ROOF TRANSITION
NO SCALE:

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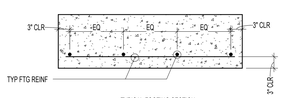
SKYLIGHT FRAMING DETAILS

S551

CONCRETE FOOTING SCHEDULE

MARK	WIDTH	LENGTH	DEPTH	REINFORCING CROSSWISE				REINFORCING LENGTHWISE				COMMENTS
				NO	SIZE	LENGTH	SPACING	NO	SIZE	LENGTH	SPACING	
FC2.0	2'-0"	CONT	12"	—	—	—	—	3	#4	CONT	EQ	
FC3.0	3'-0"	CONT	12"	—	#5	2'-6"	14"	3	#5	CONT	EQ	
FC4.0	4'-0"	CONT	12"	—	#5	3'-6"	14"	4	#5	CONT	EQ	
FC5.0	5'-0"	CONT	14"	—	#5	4'-6"	12"	5	#5	CONT	EQ	
FC6.0	6'-0"	CONT	16"	—	#5-	5'-6"	12"	7	#5	CONT	EQ	
FC7.0	7'-0"	CONT	26"	—	#5-	6'-6"	9"-	9	#7	CONT	EQ	
FC8.5	8'-6"	CONT	27"	—	#5	8'-0"	12"	9	#5	CONT	EQ	TOP
					#7	8'-0"	12"	9	#7	CONT	EQ	BOTT
FC9.0	9'-0"	CONT	18"	—	#5	8'-6"	12"	10	#5	CONT	EQ	TOP
					#8	8'-6"	9"	10	#7	CONT	EQ	BOTT
FC10.0	10'-0"	CONT	21"	—	#5	9'-6"	12"	11	#7	CONT	EQ	TOP
					#7	9'-6"	9"	11	#9	CONT	EQ	BOTT
FC12.0	12'-0"	CONT	24"	—	#5	11'-6"	12"	12	#5	CONT	EQ	TOP
					#7	11'-6"	8"	12	#8	CONT	EQ	BOTT
FC15.0	15'-0"	CONT	43"	—	#5	14'-6"	14"	15	#5	CONT	EQ	TOP
					#7	14'-6"	8"	15	#9	CONT	EQ	BOTT
FS6.0	6'-0"	6'-0"	15"	7	#5	5'-6"	EQ	7	#5	5'-6"	EQ	
FS7.0	7'-0"	7'-0"	17"	7	#6	6'-6"	EQ	7	#6	6'-6"	EQ	
FS8.0	8'-0"	8'-0"	19"	9	#6	7'-6"	EQ	9	#6	7'-6"	EQ	
FS9.0	9'-0"	9'-0"	22"	8	#7	8'-6"	EQ	8	#7	8'-6"	EQ	REINF T&B IN MF FTGS
FS10.0	10'-0"	10'-0"	24"	10	#7	9'-6"	EQ	10	#7	9'-6"	EQ	
FS11.0	11'-0"	11'-0"	25"	9	#8	10'-6"	EQ	9	#8	10'-6"	EQ	
FS12.0	12'-0"	12'-0"	28"	11	#8	11'-6"	EQ	11	#8	11'-6"	EQ	
FS13.0	13'-0"	13'-0"	32"	13	#8	12'-6"	EQ	13	#8	12'-6"	EQ	REINF T&B IN MF FTGS
FS14.0	14'-0"	14'-0"	32"	11	#9	13'-6"	EQ	11	#9	13'-6"	EQ	REINF T&B IN MF FTGS
FS15.0	15'-0"	15'-0"	33"	13	#9	14'-6"	EQ	13	#9	14'-6"	EQ	
FS16.0	16'-0"	16'-0"	36"	12	#10	15'-6"	EQ	12	#10	15'-6"	EQ	
FS17.0	17'-0"	17'-0"	37"	14	#10	16'-6"	EQ	14	#10	16'-6"	EQ	

C3000-S3000



TYPICAL FOOTING SECTION

CONCRETE FOOTING NOTES:

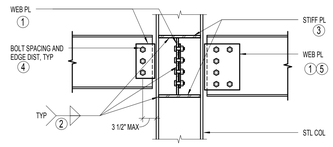
1. PLACE ALL FOOTING REINFORCING IN BOTTOM OF FOOTING WITH 3" CLEAR CONCRETE COVER, UNLESS NOTED OTHERWISE.
2. TOP REINFORCING, WHERE SPECIFIED, SHALL BE PLACED IN THE TOP OF THE FOOTING WITH 2" MINIMUM CONCRETE COVER.
3. IF FOOTINGS ARE EARTH FORMED, FOOTING WIDTH AND LENGTH SHALL BE 6" WIDER AND LONGER THAN SCHEDULED.
4. SEE GENERAL STRUCTURAL NOTES FOR ALL OTHER REQUIREMENTS.
5. NOT ALL FOOTINGS ARE USED. SEE FOUNDATION PLAN FOR FOOTING MARKS.
6. RUN CONTINUOUS BARS IN 'FC' FOOTING THROUGH INTERSECTED 'FS' FOOTINGS.
7. ALL CONTINUOUS FOOTINGS LARGER THAN 5'-0" WIDE ARE TO HAVE CONCRETE COMPRESIVE STRENGTH f'c=4500 psi

1 S601 CONCRETE FOOTING SCHEDULE
NO SCALE:

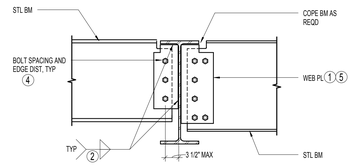
A-325 BOLT SCHEDULE

MAXIUMU BEAM SIZE IN EACH BEAM DEPTH GROUP	A-325N BOLTS	
	No. PER BEAM	SIZE
W8	2	7/8"Ø
W10	2	7/8"Ø
W12	3	7/8"Ø
W14	3	7/8"Ø
W16	4	7/8"Ø
W18	5	7/8"Ø
W21	6	7/8"Ø
W24	7	7/8"Ø
W27	7	7/8"Ø
W30	8	7/8"Ø
W33	9	7/8"Ø
W36	10	7/8"Ø
W40	11	7/8"Ø
W44	12	7/8"Ø

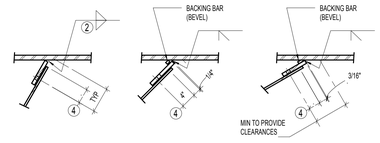
1. BEAM WEB CONNECTION PLATES: THICKNESS EQUALS THE BEAM WEB THICKNESS PLUS 1/8" (1/2" MIN).
2. FILLET WELDS SHALL BE AS FOLLOWS:
   TWO SIDES: 1/2" PLATE THICKNESS PLUS 1/16"
   (1/4" MINIMUM) EACH SIDE.
3. THICKNESS EQUALS BEAM FLANGE THICKNESS OF BEAM FRAMING INTO COLUMN WEB (3/8" MINIMUM)
4. BOLT EDGE DISTANCE SHALL BE 1 1/2" MINIMUM AT ALL EDGES. BOLT SPACING SHALL BE AT 3". BOLT SPACING MAY BE REDUCED TO 3 x BOLT DIAMETER IF IT IS REQUIRED FOR A SINGLE ROW OF BOLTS. A SINGLE ROW OF BOLTS IS PREFFERED.
5. WHEN MORE THAN ONE COLUMN OF BOLTS IS NEEDED, THE FIRST COLUMN SHALL BE COMPLETE WITH THE REMAINDER OF THE BOLTS PLACED IN THE SECOND COLUMN.



BEAM TO WIDE FLANGE COLUMN WEB PLATE CONNECTION



BEAM TO BEAM WEB PLATE CONNECTION

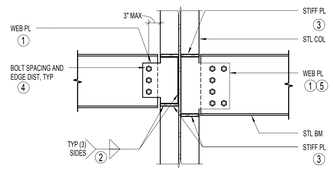


CONDITION A FOR SKEWS UP TO 30 DEGREES

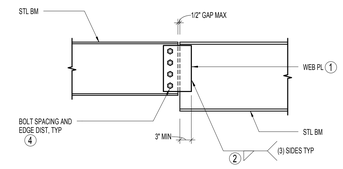
CONDITION B FOR SKEWS OVER 30 TO 45 DEGREES

CONDITION C FOR SKEWS OVER 45 TO 60 DEGREES

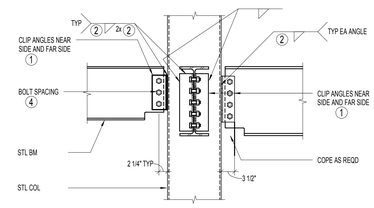
SHEAR CONNECTOR PLATES AT SKEWED MEMBERS



BEAM TO WIDE FLANGE COLUMN WEB PLATE CONNECTION



BEAM TO PARALLEL BEAM WEB PLATE CONNECTION



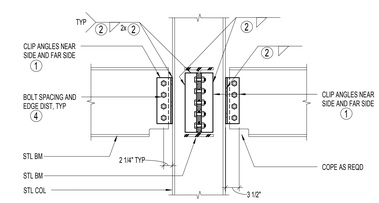
BEAM TO HSS CLIP ANGLE CONNECTION

2 S601 TYPICAL BOLTED WEB PLATE CONNECTIONS WITH BOLT SCHEDULE (SINGLE SHEAR)
NO SCALE:

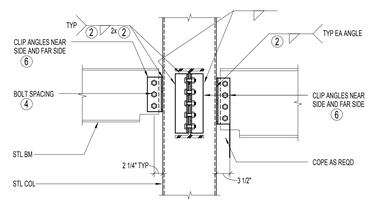
A-325 BOLT SCHEDULE

MAXIUMU BEAM SIZE IN EACH BEAM DEPTH GROUP	A-325N BOLTS	
	No. PER BEAM	SIZE
W8	2	7/8"Ø
W10	2	7/8"Ø
W12	3	7/8"Ø
W14	3	7/8"Ø
W16	4	7/8"Ø
W18	5	7/8"Ø
W21	6	7/8"Ø
W24, W27	7	7/8"Ø
W30	8	7/8"Ø
W33	9	7/8"Ø
W36	10	7/8"Ø
W40	11	7/8"Ø
W44	12	7/8"Ø

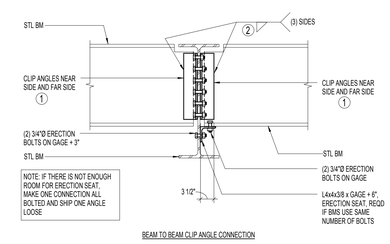
1. CLIP ANGLES: (2) L4x3 1/2 THICKNESS SHALL BE EQUAL TO ONE HALF THE BEAM WEB THICKNESS PLUS 1/16" (5/16" MINIMUM). FOR TWO ROWS OF BOLTS OR SKEWED CONNECTIONS, USE BENT PLATES. WHERE COLUMN WIDTH IS SMALLER THAN THE CONNECTING CLIP ANGLES, ANGLE LEGS SHALL BE REDUCED TO MATCH WIDTH OF COLUMN. USE L5x3 1/2 ANGLES AT BEAM TO CONCRETE WALL OR COLUMN CONNECTIONS WITH HORIZONTAL LONG SLOTTED HOLES IN 5" LEGS.
2. FILLET WELDS SHALL BE ANGLE THICKNESS MINUS 1/16"
3. CONTRACTOR HAS OPTION TO BOLT CLIP ANGLES IN EITHER BEAM WEB IN BEAM TO BEAM CONNECTIONS AND IN COLUMN WEB AND FLANGE.
4. BOLT EDGE DISTANCE SHALL BE 1 1/2" MINIMUM AT BEAM EDGES AND 1 1/4" MINIMUM AT CLIP ANGLE EDGES. BOLT SPACING SHALL BE 3"oc MINIMUM, UNLESS NOTED OTHERWISE.



BEAM TO WIDE FLANGE COLUMN CLIP ANGLE CONNECTION



BEAM TO HSS CLIP ANGLE CONNECTION



NOTE: IF THERE IS NOT ENOUGH ROOM FOR ERECTION SEAT, MAKE ONE CONNECTION ALL BOLTED AND SHIP ONE ANGLE LOOSE

BEAM TO BEAM CLIP ANGLE CONNECTION

3 S601 TYPICAL BOLTED CLIP ANGLE CONNECTIONS WITH BOLT SCHEDULE (DOUBLE SHEAR)
NO SCALE:

CONCRETE WALL SCHEDULE

MARK	THICKNESS	REINFORCING			WALL TYPE	COMMENTS
		VERTICAL	HORIZONTAL	TOP AND BOTTOM		
CW-1	12"	(2) #5 AT 12"oc	(2) #5 AT 12"oc	(2) #6	C	
CW-2	8"	(1) #5 AT 18"oc	(1) #5 AT 12"oc	(1) #5	A	

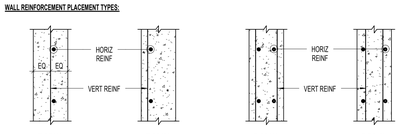
CONCRETE WALL NOTES:

1. SEE GENERAL STRUCTURAL NOTES FOR COVER AND OTHER REQUIREMENTS NOT NOTED IN SCHEDULE.
2. CONCRETE WALLS NOT DESIGNATED ON THE PLANS SHALL BE REINFORCED AS FOLLOWS:

THICKNESS	VERTICAL REINFORCING	HORIZONTAL REINFORCING
6"	#4 BARS AT 18"oc	#4 BARS AT 16"oc
8"	#4 BARS AT 18"oc	#4 BARS AT 12"oc
10"	#4 BARS AT 18"oc	#5 BARS AT 15"oc
12"	#4 BARS AT 18"oc EA FACE	#4 BARS AT 16"oc EA FACE

3. PLACE STEEL IN THE CENTER OF THE WALL (EXCEPT TYPE 'B' AND RETAINING WALLS). WALLS THICKER THAN 10" SHALL HAVE TWO CURTAINS OF REINFORCEMENT (PLACED NEAR EACH FACE OF THE WALL), UNLESS NOTED OTHERWISE ON THE STRUCTURAL DRAWINGS.

WALL REINFORCEMENT PLACEMENT TYPES:



TYPE "A" TYPE "B" TYPE "C" TYPE "D"

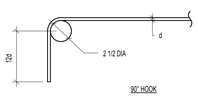
4 S601 CONCRETE WALL SCHEDULE
NO SCALE:

CONCRETE REINFORCING BAR LAP SPLICE SCHEDULE

BAR SIZE	f'c = 3000 PSI				f'c = 4000 PSI				f'c = 5000 PSI				f'c = 6000 PSI			
	REGULAR		TOP		REGULAR		TOP		REGULAR		TOP		REGULAR		TOP	
	CLASS		CLASS		CLASS		CLASS		CLASS		CLASS		CLASS		CLASS	
	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B
#3	17"	22"	22"	28"	15"	19"	19"	24"	13"	17"	17"	22"	12"	16"	16"	20"
#4	22"	29"	29"	38"	19"	25"	25"	33"	17"	22"	22"	29"	16"	21"	21"	27"
#5	28"	36"	36"	47"	24"	31"	31"	41"	22"	28"	28"	36"	20"	26"	26"	33"
#6	33"	43"	43"	56"	29"	37"	37"	49"	26"	34"	34"	43"	24"	31"	31"	40"
#7	49"	63"	63"	81"	42"	54"	54"	70"	37"	48"	48"	63"	35"	45"	45"	58"
#8	55"	72"	72"	93"	47"	62"	62"	80"	42"	55"	71"	71"	39"	51"	51"	66"
#9	62"	81"	81"	105"	53"	69"	69"	90"	48"	62"	62"	81"	44"	58"	58"	75"
#10	70"	91"	91"	118"	60"	78"	78"	101"	54"	70"	70"	91"	50"	65"	65"	84"
#11	78"	101"	101"	131"	67"	87"	87"	112"	60"	77"	77"	100"	55"	72"	72"	93"

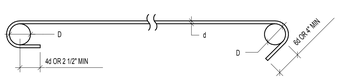
CONCRETE REINFORCING BAR LAP SPLICE NOTES:

1. THIS SCHEDULE SHALL BE USED FOR ALL SPLICES, UNLESS NOTED OTHERWISE.
2. HORIZONTAL BARS ARE CLASSIFIED AS TOP BARS WHERE 12", OR MORE, OF FRESH CONCRETE IS CASBELOW THE REINFORCING BARS.
3. CLASS 'B' SPLICES SHALL BE USED FOR ALL SPLICES UNLESS NOTED OTHERWISE.
4. TIES AND STIRRUPS SHALL NOT BE SPLICED.
5. FOR ALL LIGHTWEIGHT CONCRETE, LAP LENGTHS SHALL BE MULTIPLIED BY 1.3.
6. FOR ALL EPOXY COATED BARS, LAP LENGTHS SHALL BE MULTIPLIED BY 1.3 FOR TOP BARS AND 1.5 FOREGULAR BARS.
7. LAP LENGTHS SHALL BE MULTIPLIED BY 1.25 AT SHEARWALL BOUNDARY ELEMENTS AT FOOTINGS.

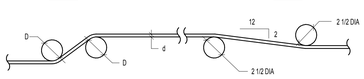


90° HOOK

D = 6d FOR #3 - #8
D = 8d FOR #9 - #11
D = 10d FOR #14 - #18



180° HOOK 135° HOOK



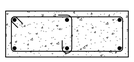
45° BEND OFFSET

5 S601 CONCRETE REINFORCING BAR LAP SPLICE SCHEDULE / BAR BENDING DIAGRAMS
NO SCALE:

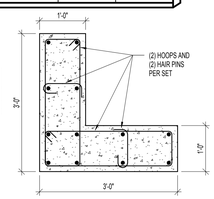
CONCRETE COLUMN SCHEDULE

MARK	COLUMN SIZE	REINFORCING		TYPE	f'c
		VERTICAL	TIES		
CC-1	12" x 16"	(4) #7	#4 AT 8"oc	A	4500 psi
CC-2	12" x 32"	(6) #7	#4 AT 8"oc	B	4500 psi
CC-3	PER DETAIL	(12) #7	#4 AT 8"oc	C	4500 psi

TYPE (A)
(4) BARS



TYPE (B)
(6) BARS



TYPE (C)
(12) BARS

6 S601 CONCRETE PIER SCHEDULE
NO SCALE:

CONCRETE LINTEL SCHEDULE

MARK	DEPTH	REINFORCING		REMARKS
		TOP AND BOTTOM	TIES	
CL-1	3'- 0"	(2) #8	#4 AT 8"oc	

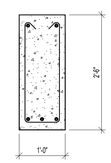
CONCRETE LINTEL NOTES:

1. LINTEL WIDTH AND MATERIAL TYPE SHALL BE THE SAME AS THE WALL IN WHICH THE LINTEL IS CONSTRUCTED.
2. TOP BARS MAY BE SPLICED AT THE MID-SPAN OF LINTELS ONLY.
3. BOTTOM BARS MAY BE SPLICED OVER SUPPORTS OF LINTELS ONLY.
4. TIES AND STIRRUPS MAY NOT BE SPLICED.

9 S601 CONCRETE LINTEL SCHEDULE
NO SCALE:

CONCRETE BEAM SCHEDULE

MARK	BEAM SIZE	REINFORCING		f'c	COMMENTS
		LENGTHWISE	TIE		
CB-1	12" x 30"	(2) #9 BOTT	#4 AT 8"oc	4000	TYPE A
		(2) #6 TOP			



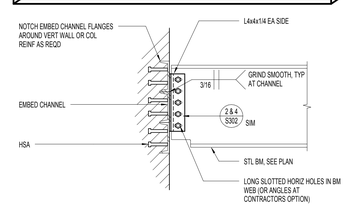
TYPE A

7 S601 CONCRETE BEAM SCHEDULE
NO SCALE:

EMBED CHANNEL CONNECTION SCHEDULE

BEAM DEPTH	CHANNEL	ANCHORS
TO 10"	(1) C8x18.5x12"	(4) 3/4"Ø x 6" HSA
TO 16"	(2) C8x18.5x12"	(8) 3/4"Ø x 6" HSA
TO 24"	(3) C8x18.5x12"	(12) 3/4"Ø x 6" HSA
TO 30"	(4) C8x18.5x12"	(16) 3/4"Ø x 6" HSA

1. FILLET WELDS SHALL BE ANGLE THICKNESS MINUS 1/16" (1/4" MIN.)



8 S601 EMBED CHANNEL CONNECTION SCHEDULE
NO SCALE:

MAY 16, 2012
50% Review Submittal

NOTE:
THESE STRUCTURAL DRAWINGS ARE BASED ON ARCHITECTURAL DRAWINGS DATED 05.10.2012

DIMENSIONS AND ELEVATIONS, AS THEY RELATE TO THE BUILDING IN GENERAL, i.e. GRID TO GRID DIMENSIONS OR DECK BEARING ELEVATIONS, ARE SUPPLIED BY THE ARCHITECT. THEY ARE PROVIDED ON THE STRUCTURAL PLANS AND DETAILS FOR THE CONVENIENCE OF THE CONTRACTOR. VERIFY DIMENSIONS AND ELEVATIONS WITH ARCHITECTURAL DRAWINGS.

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DESIGNED BY:	DAVID DUNN
CHECKED BY:	-
DUNN PROJECT NO.:	10160
ISSUED DATE:	MAY 16, 2012

SCHEDULES

S601

DRAWING INDEX

#	SHEET NAME
MH001	MECHANICAL LEGEND, SYMBOLS & ABBREVIATIONS
FP100	BASEMENT LEVEL FIRE PROTECTION PLAN
FP101	LEVEL 1 FIRE PROTECTION PLAN
FP102	LEVEL 2 FIRE PROTECTION PLAN
MH100	BASEMENT LEVEL MECHANICAL FLOOR PLAN
MH101	LEVEL 1 MECHANICAL FLOOR PLAN
MH102	LEVEL 2 MECHANICAL FLOOR PLAN
MH103	ROOF PLAN
MH301	MECHANICAL SECTIONS
MH302	MECHANICAL SECTIONS
MH303	MECHANCIAL SECTIONS
MH401	MECHANICAL ROOM ENLARGED PLAN
MH501	DETAILS
MH502	DETAILS
MH503	DETAILS
MH504	DETAILS
MH601	MECHANICAL SCHEDULES
MH602	MECHANICAL SCHEDULES
MH603	MECHANICAL SCHEDULES
MH701	MECHANICAL SCHEMATICS
MH702	MECHANICAL SCHEMATICS
MH703	MECHANICAL SCHEMATICS
MH704	MECHANICAL SCHEMATICS
MH705	MECHANICAL SCHEMATICS
MH706	MECHANICAL SCHEMATICS
MP100	BASEMENT LEVEL PIPING PLAN
MP101	LEVEL 1 PIPING PLAN
MP102	LEVEL 2 PIPING PLAN
PL100	BASEMENT LEVEL PLUMBING PLAN
PL101	LEVEL 1 PLUMBING PLAN
PL102	LEVEL 2 PLUMBING PLAN
PL201	SCHEMATICS
PL202	SANITARY AND VENT SCHEMATIC
PL401	ENLARGED PLUMBING
PL402	ENLARGED PLUMBING
PL501	DETAILS
PL601	PLUMBING SCHEDULES

KEYED NOTES

GENERAL NOTES

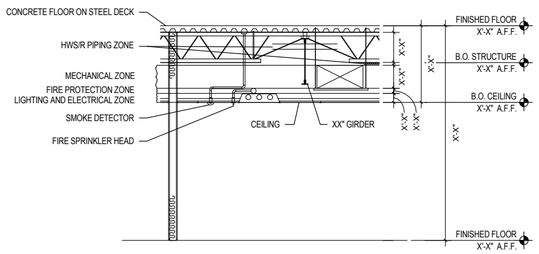
A. MECHANICAL GENERAL NOTES
B.
C.

GENERAL NOTES

A. PIPING GENERAL NOTES
B.
C.

ABBREVIATIONS

Ø	ROUND OR DIAMETER	LWT	LEAVING WATER TEMPERATURE
AD	ACCESS DOOR	MAX	MAXIMUM
AF	AIRFOIL	MBH	THOUSAND BRITISH THERMAL UNITS/HOUR
AFF	ABOVE FINISHED FLOOR	MECH	MECHANICAL
ALT	ALTERNATE	MIN	MINIMUM
BI	BACKWARD INCLINED	NC	NOISE CRITERIA OR NORMALLY CLOSED
BOD	BOTTOM OF DUCT	NIC	NOT IN CONTRACT
BOP	BOTTOM OF PIPE	NO	NUMBER
BTUH	BRITISH THERMAL UNITS PER HOUR	NOM	NOMINAL
CAP	CAPACITY	NTS	NOT TO SCALE
CFM	CUBIC FEET PER MINUTE	OA	OUTSIDE AIR
CV	CONSTANT VOLUME	OBD	OPPOSED BLADE DAMPER
DB	DRY BULB	OD	OVERFLOW DRAIN
DN	DOWN	OFCI	OWNER FURNISHED, CONTRACTOR INSTALLED
DIA	DIAMETER	OFOI	OWNER FURNISHED, OWNER INSTALLED
DCW	DOMESTIC COLD WATER	PD	PRESSURE DROP
DHW	DOMESTIC HOT WATER	POC	POINT OF CONNECTION
DHWC	DOMESTIC HOT WATER CIRC.	PRV	PRESSURE REDUCING VALVE
DSN	DOWN SPOUT NOZZLE	PSI	POUNDS PER SQUARE INCH
DW	DISHWASHER	PSIG	POUNDS PER SQUARE INCH GAUGE
(E)	EXISTING	RA	RETURN AIR
EA	EXHAUST AIR	RAD	RADIUS
EAT	ENTERING AIR TEMPERATURE	RD	ROOF DRAIN
EFF	EFFICIENCY	RPBP	REDUCED PRESSURE BACKFLOW PREVENTER
ELEV	ELEVATION	SA	SUPPLY AIR OR SHOCK ARRESTOR
ENCL	ENCLOSURE	SEN	SENSIBLE
ESP	EXTERNAL STATIC PRESSURE	SIM	SIMILAR
ET	EXPANSION TANK	SL	SEA LEVEL
EWC	ELECTRIC WATER COOLER	SP	STATIC PRESSURE
EWT	ENTERING WATER TEMPERATURE	SF	SQUARE FEET
FCO	FLOOR CLEANOUT	SS	SERVICE SINK OR STAINLESS STEEL OR SANITARY SEWER
FD	FLOOR DRAIN		
FO	FLAT OVAL	TOD	TOP OF DUCT
FPM	FEET PER MINUTE	TSP	TOTAL STATIC PRESSURE
FS	FLOOR SINK	TYP.	TYPICAL
FT	FEET	U	URINAL
FV	FACE VELOCITY	V	VENT
GA	GAUGE	VAV	VARIABLE AIR VOLUME
GAL	GALLON	VD	VOLUME DAMPER
GD	GARAGE DRAIN	VFD	VARIABLE FREQUENCY DRIVE
GPM	GALLONS PER MINUTE	VOL	VOLUME
HP	HORSEPOWER	VTR	VENT THROUGH ROOF
HR	HOUR	W/	WITH
HT	HEIGHT	W/O	WITHOUT
IN	INCH	WB	WET BULB
INWC	INCHES OF WATER COLUMN	WC	WATER CLOSET
INWG	INCHES OF WATER GAUGE	MVD	MANUAL VOLUME DAMPER
L	LAVATORY OR LOUVER	WCO	WALL CLEANOUT
LAT	LEAVING AIR TEMPERATURE	WPD	WATER PRESSURE DROP
LBS	POUNDS	WT	WEIGHT



NOTE: EXTREMELY LIMITED SPACE IS AVAILABLE FOR TRADES TO INSTALL THEIR WORK. CAREFUL COORDINATION IS REQUIRED TO ASSURE THAT CROSS-OVER LINES ACTUALLY FIT IN ZONES ALLOTTED. ON OCCASION "FIRE PROTECTION ZONE" AND/OR "ELECTRICAL ZONE" MAY NEED TO TRANSITION UP INTO "STRUCTURAL ZONE" BETWEEN BEAMS AND GIRDERS. GENERAL CONTRACTOR SHALL COORDINATE WORK AND SCHEDULE OF EACH TRADE TO PREVENT UTILITY LINE CONFLICTS.

VERTICAL SPACE ALLOCATION

SCALE: NONE

MECHANICAL LEGEND

NOTE: ALL ITEMS MAY NOT APPEAR ON DRAWINGS

GATE VALVE
OS & Y PATTERN GATE VALVE
BALL VALVE
BUTTERFLY VALVE
MOTORIZED VALVE OPERATOR
GAS COCK
PLUG VALVE
CHECK VALVE (SWING OR LIFT AS REQ'D)
SOLENOID VALVE
AUTOMATIC CONTROL VALVE (2-WAY)
AUTOMATIC CONTROL VALVE (3-WAY)
PRESSURE REDUCING VALVE
P & T RELIEF VALVE
AIR VENT (AUTOMATIC)
CURB COCK
THERMAL EXPANSION VALVE
STRAINER
CALIBRATED BALANCE VALVE
TOTALIZING FLOW METER
INSTANTANEOUS FLOW METER
VENTURI FLOW METER
REDUCER
PET COCK OR GAUGE COCK
PRESSURE GAUGE W/GAUGE COCK
THERMOMETER
TEMPERATURE & PRESSURE TEST PLUG
IN-LINE PUMP
FLOW SWITCH
AQUASTAT
TEMPERATURE SENSING WELL
HOSE BIBB OR SILLCOCK
YARD HYDRANT
FLOOR DRAIN
FLOOR SINK
MANHOLE
WALL CLEANOUT
FLOOR OR GRADE CLEANOUT
GRADE CLEANOUT W/ CONCRETE PAD
VENT THROUGH ROOF (ISOMETRIC)
POST TYPE FDC CONNECTION
WALL TYPE FDC CONNECTION
FIRE HOSE CABINET
FIRE DEPT. HORN & LIGHT
EXPANSION JOINT
FLEXIBLE PIPE CONNECTION
REDUCED PRESSURE BACKFLOW PREVENTER — RPBP
DIRECTION OF FLOW
ELBOW DOWN
ELBOW UP
PIPE CAP
TEE DOWN
UNION
DOMESTIC COLD WATER
DOMESTIC HOT WATER
HOT WATER CIRC.
TEMPERED WATER — T
SANITARY (PLBG) VENT
SANITARY SEWER ABOVE GRADE
SANITARY SEWER BELOW GRADE
GREASE WASTE ABOVE GRADE — GW
GREASE WASTE BELOW GRADE — GW
DRAIN — D
ROOF DRAIN — RD
OVERFLOW DRAIN — OD
STORM DRAIN ABOVE GRADE — SD
STORM DRAIN BELOW GRADE — SD
COMPRESSED AIR — CA
INDUSTRIAL WATER (NON-POTABLE) — IW

DEIONIZED WATER — DI
DEIONIZED WATER RETURN — DIR
FIRE SERVICE — F
NATURAL GAS — G
PROPANE — P
HEAT TRACING
CHILLED WATER SUPPLY — CHS
CHILLED WATER RETURN — CHR
CONDENSER WATER SUPPLY — CS
CONDENSER WATER RETURN — CR
GROUND LOOP SUPPLY — GLS
GROUND LOOP RETURN — GLR
HEAT RECOVERY SUPPLY — HRS
HEAT RECOVERY RETURN — HRR
HEATING WATER SUPPLY — HWS
HEATING WATER RETURN — HWR
RADIANT FLOOR SUPPLY — RFS
RADIANT FLOOR RETURN — RFR
SNOW MELT SUPPLY — SMS
SNOW MELT RETURN — SMR
STEAM — S
STEAM CONDENSATE RETURN — SCR
REFRIGERANT LIQUID — RL
REFRIGERANT SUCTION — RS
HOT GAS — HG
HOT GAS BYPASS — HGBP
DUCT SIZE (IN). FIRST FIGURE IS SIDE SHOWN — 18/12
BURIED OR UNDERFLOOR DUCT
DUCT W/ ACOUSTICAL LINING
FLEXIBLE DUCT (HELICAL)
SPIN-IN FITTING W/ MVD
FLEXIBLE DUCT CONNECTION
SUPPLY SLOT DIFFUSER
SUPPLY DIFFUSER
RETURN GRILLE
RADIAL SUPPLY DIFFUSERS
RETURN AIR DUCT SECTION
RETURN AIR DUCT UP
RETURN AIR DUCT DOWN
SUPPLY AIR DUCT SECTION
SUPPLY AIR DUCT UP
SUPPLY AIR DUCT DOWN
EXHAUST AIR DUCT SECTION
EXHAUST AIR DUCT UP
EXHAUST AIR DUCT DOWN
ACCESS PANEL
MANUAL VOLUME DAMPER
GRAVITY BACKDRAFT DAMPER
MOTORIZED DAMPER
AIR FLOW STATION
FIRE DAMPER
SMOKE DAMPER
COMBINATION FIRE/SMOKE DAMPER
DUCT TRANSITION
ELBOW W/ TURNING VANES
TEE W/ 45° ENTRY
WYE W/ 45° ENTRY
THERMOSTAT OR TEMP SENSOR
HUMIDISTAT OR HUMIDITY SENSOR
CARBON MONOXIDE SENSOR
CARBON DIOXIDE SENSOR
NITROGEN DIOXIDE SENSOR
POINT OF REMOVAL FROM EXISTING
POINT OF CONNECTION TO EXISTING
DETAIL TAG — DETAIL NO. / DRAWING NO.
KEYED NOTE — NOTE NO.
SECTION CUT LINE — SECTIONS NO. / DRAWING NO.

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MECHANICAL LEGEND, SYMBOLS & ABBREVIATIONS

MH001

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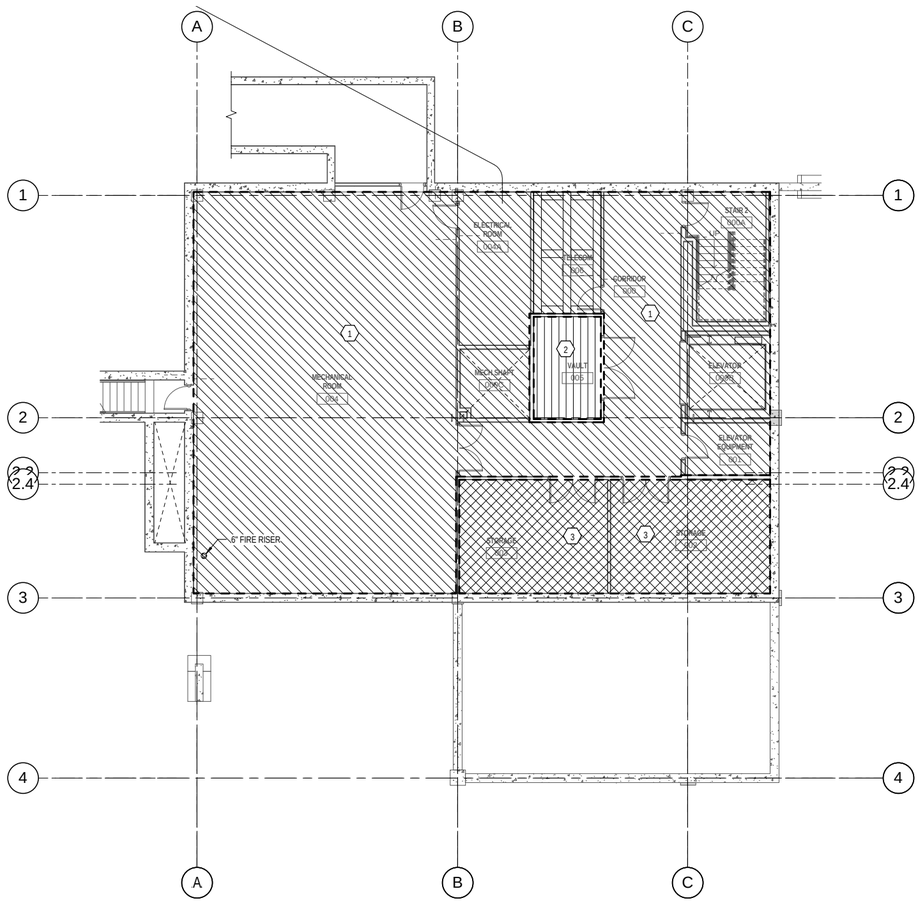
KEYED NOTES

1. ORDINARY HAZARD GROUP 1. PROVIDE CONCEALED HEADS IN ALL GALLERIES, GRAND LOBBY, AND CAFE.
2. VAULT TO BE FIRE-PROOF. NO FIRE SPRINKLERS IN THE VAULT.
3. ORDINARY HAZARD GROUP 2. PROVIDE CONCEALED HEADS IN ALL GALLERIES, GRAND LOBBY, AND CAFE.



1 BASEMENT LEVEL FIRE PROTECTION PLAN

SCALE: 1/8" = 1'-0"

6' 0' 4' 8' 12' 16'

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BASEMENT LEVEL FIRE PROTECTION PLAN

FP100

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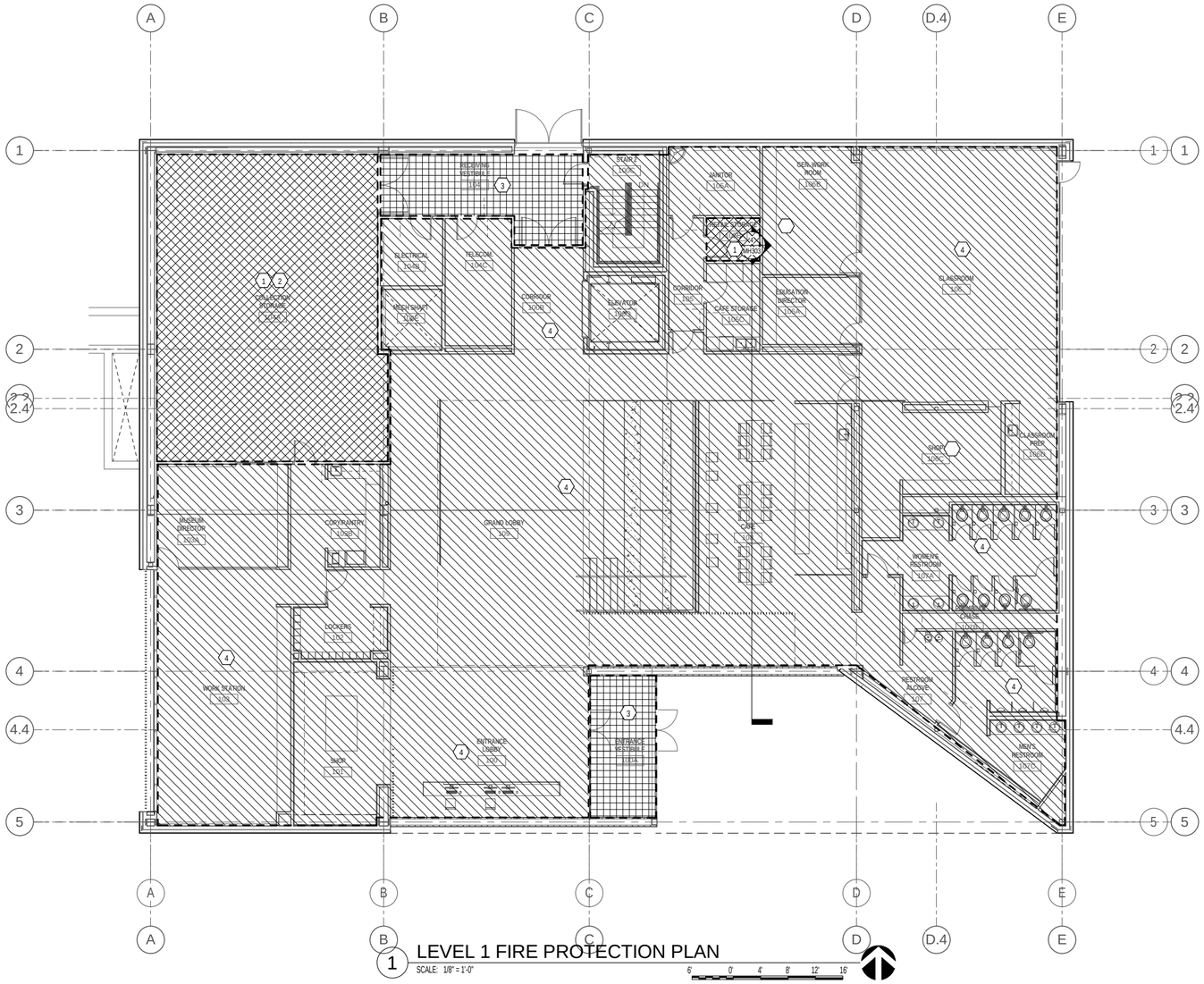
KEYED NOTES

1. ORDINARY HAZARD GROUP 2. PROVIDE CONCEALED HEADS IN ALL GALLERIES, GRAND LOBBY, AND CAFE.
2. PROVIDE A SINGLE INTERLOCK PREACTION SYSTEM.
3. PROVIDE DRY HEADS TO PROTECT VESTIBULES AND OTHER AREAS SUBJECT TO FREEZING.
4. ORDINARY HAZARD GROUP 1. PROVIDE CONCEALED HEADS IN ALL GALLERIES, GRAND LOBBY, AND CAFE.



1 LEVEL 1 FIRE PROTECTION PLAN

SCALE: 1/8" = 1'-0"

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LEVEL 1 FIRE PROTECTION PLAN

FP101

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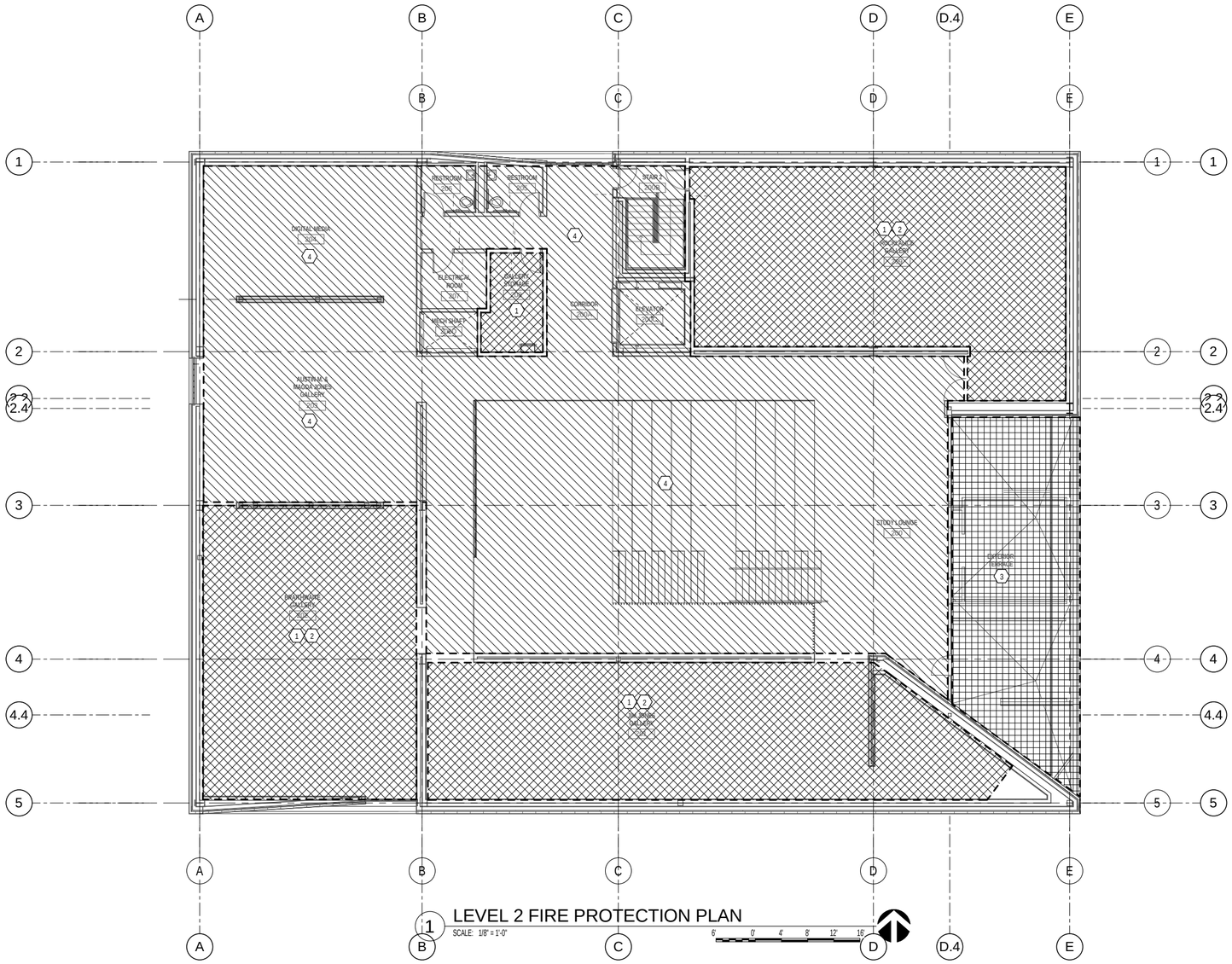
KEYED NOTES

1. ORDINARY HAZARD GROUP 2. PROVIDE CONCEALED HEADS IN ALL GALLERIES, GRAND LOBBY, AND CAFE.
2. PROVIDE A SINGLE INTERLOCK PREACTION SYSTEM.
3. PROVIDE DRY HEADS TO PROTECT VESTIBULES AND OTHER AREAS SUBJECT TO FREEZING.
4. ORDINARY HAZARD GROUP 1. PROVIDE CONCEALED HEADS IN ALL GALLERIES, GRAND LOBBY, AND CAFE.



1 LEVEL 2 FIRE PROTECTION PLAN

SCALE: 1/8" = 1'-0"

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LEVEL 2 FIRE PROTECTION PLAN

FP102

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KEYED NOTES

1 DO NOT ROUTE PIPE OR DUCT THROUGH ELEVATOR EQUIPMENT CLOSET.

GENERAL NOTES

A. MECHANICAL GENERAL NOTES
B.
C.

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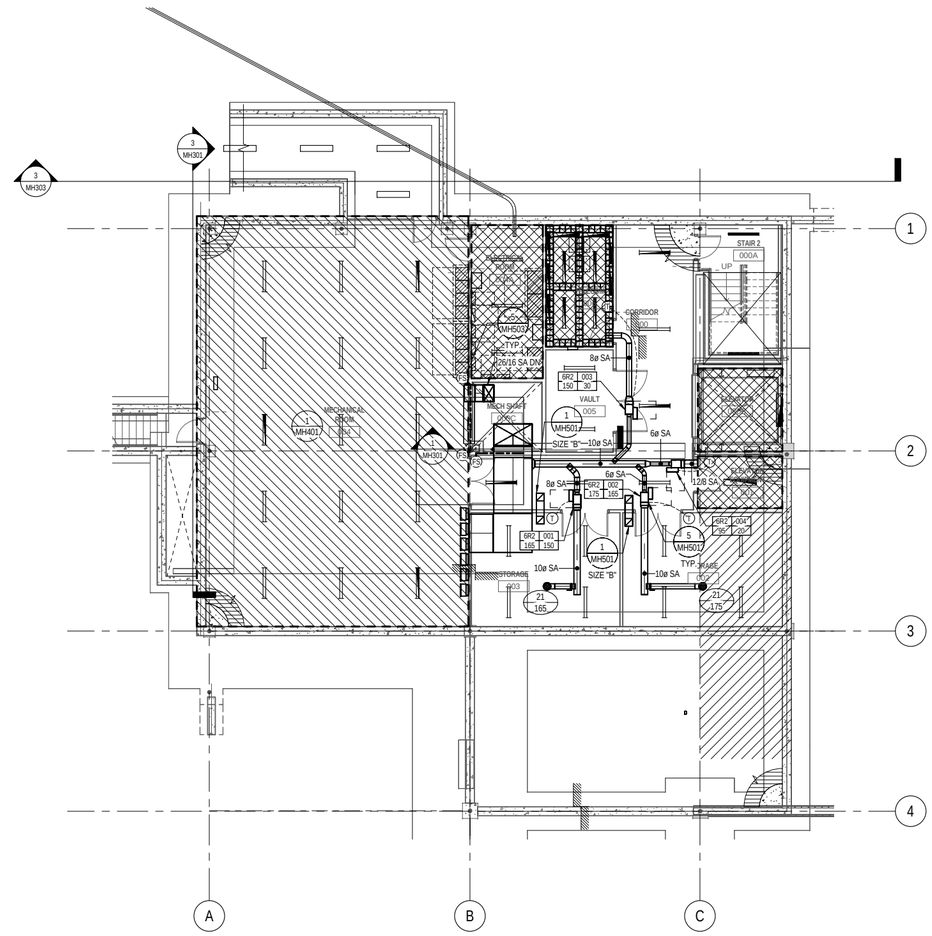
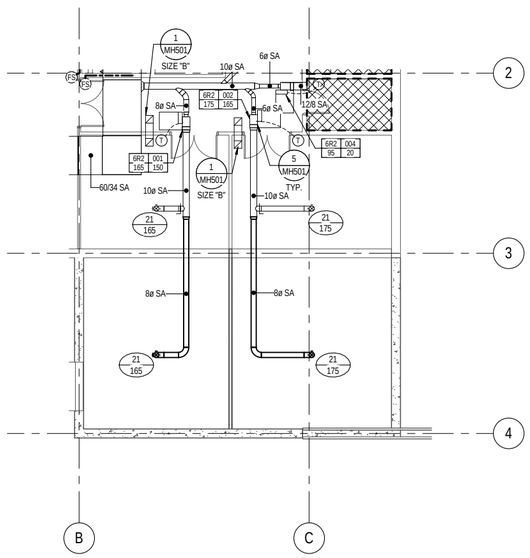


1 BASEMENT LEVEL MECHANICAL PLAN
SCALE: 1/8" = 1'-0"



2 BASEMENT LEVEL MECHANICAL PLAN BID ALTERNATE
SCALE: 1/8" = 1'-0"

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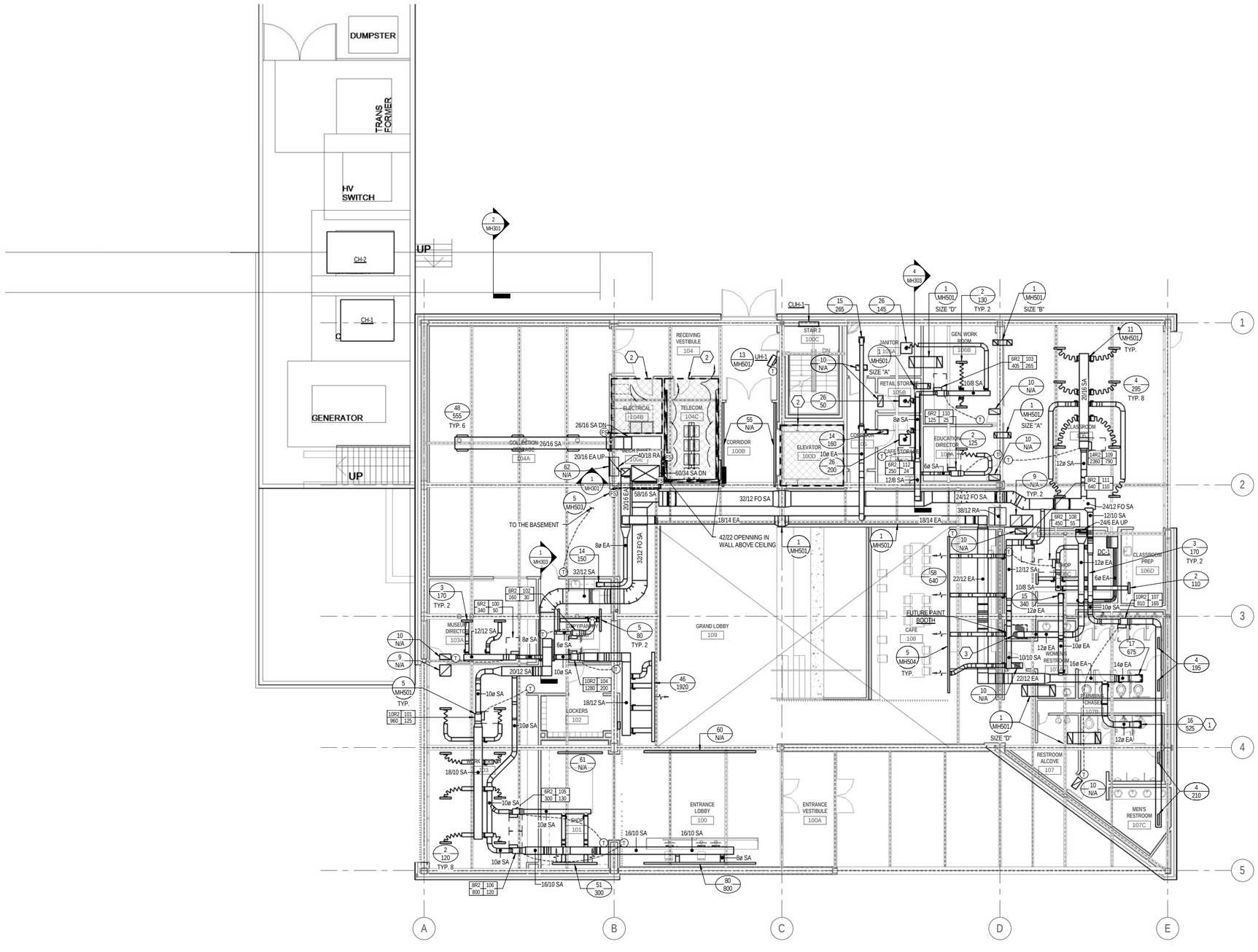
BASEMENT LEVEL MECHANICAL FLOOR PLAN

MH100



1 LEVEL 1 MECHANICAL PLAN

SCALE: 1/8" = 1'-0"

6' 0' 4' 8' 12' 16'

KEYED NOTES

1 USE EXHAUST GRILL WITH DAMPER.
2 DO NOT ROUTE PIPE OR DUCT THROUGH ELEVATOR EQUIPMENT CLOSET.
3 CAP EXHAUST DUCT FOR FUTURE CONNECTION.

GENERAL NOTES

A. MECHANICAL GENERAL NOTES
B.
C.

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LEVEL 1 MECHANICAL FLOOR PLAN

MH101

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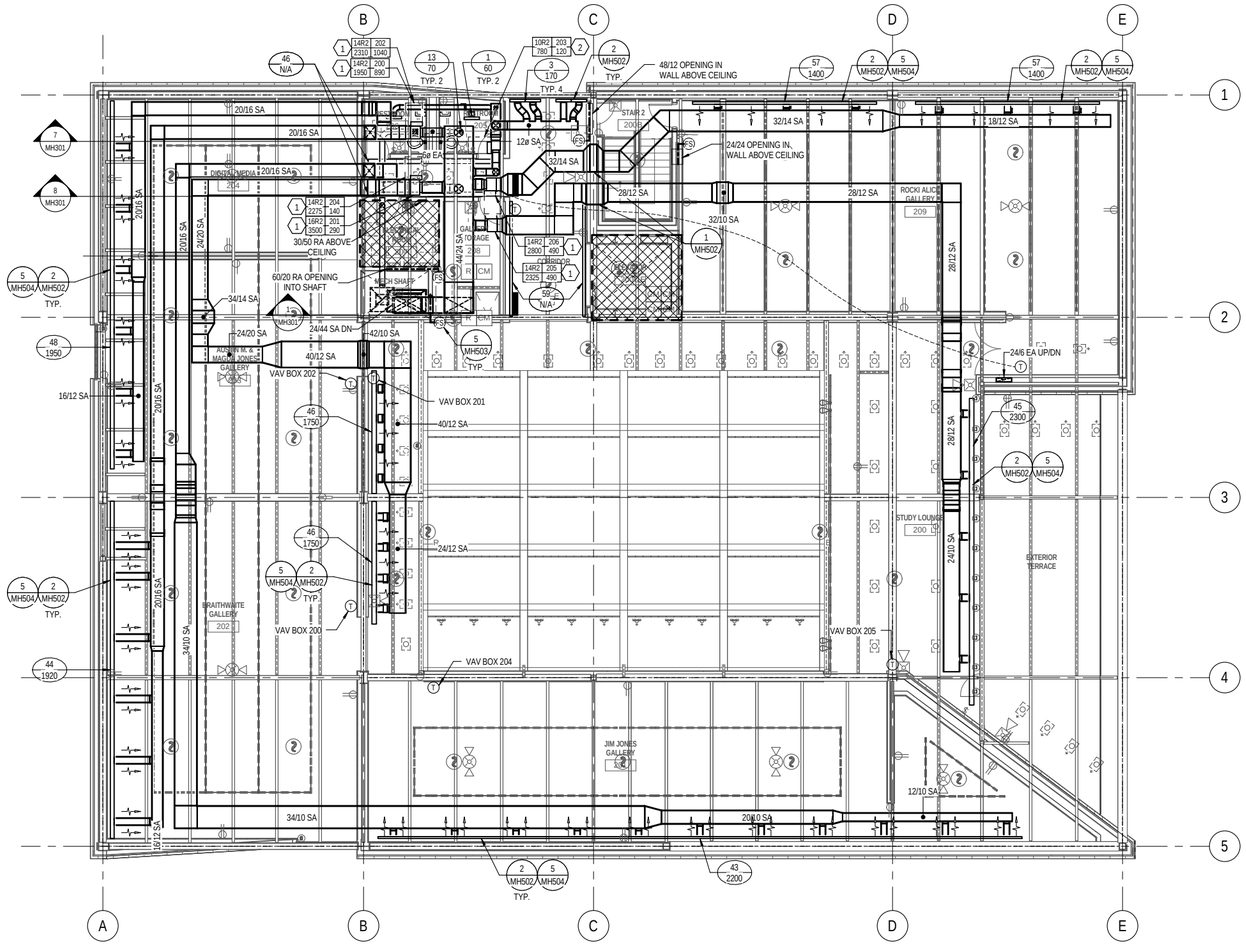
KEYED NOTES

1. ROUTE 1" HEATING WATER SUPPLY AND RETURN PIPING TO VAV. SEE VAV REHEAT BOX SCHEDULE ON MH601 AND DETAIL 6/MH501 FOR FURTHER REQUIREMENTS.
2. ROUTE 3/4" HEATING WATER SUPPLY AND RETURN PIPING TO VAV. SEE VAV REHEAT BOX SCHEDULE ON MH601 AND DETAIL 6/MH501 FOR FURTHER REQUIREMENTS.

GENERAL NOTES

A. MECHANICAL GENERAL NOTES
B.
C.



1 LEVEL 2 MECHANICAL PLAN

SCALE: 1/8" = 1'-0"

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LEVEL 2 MECHANICAL FLOOR PLAN

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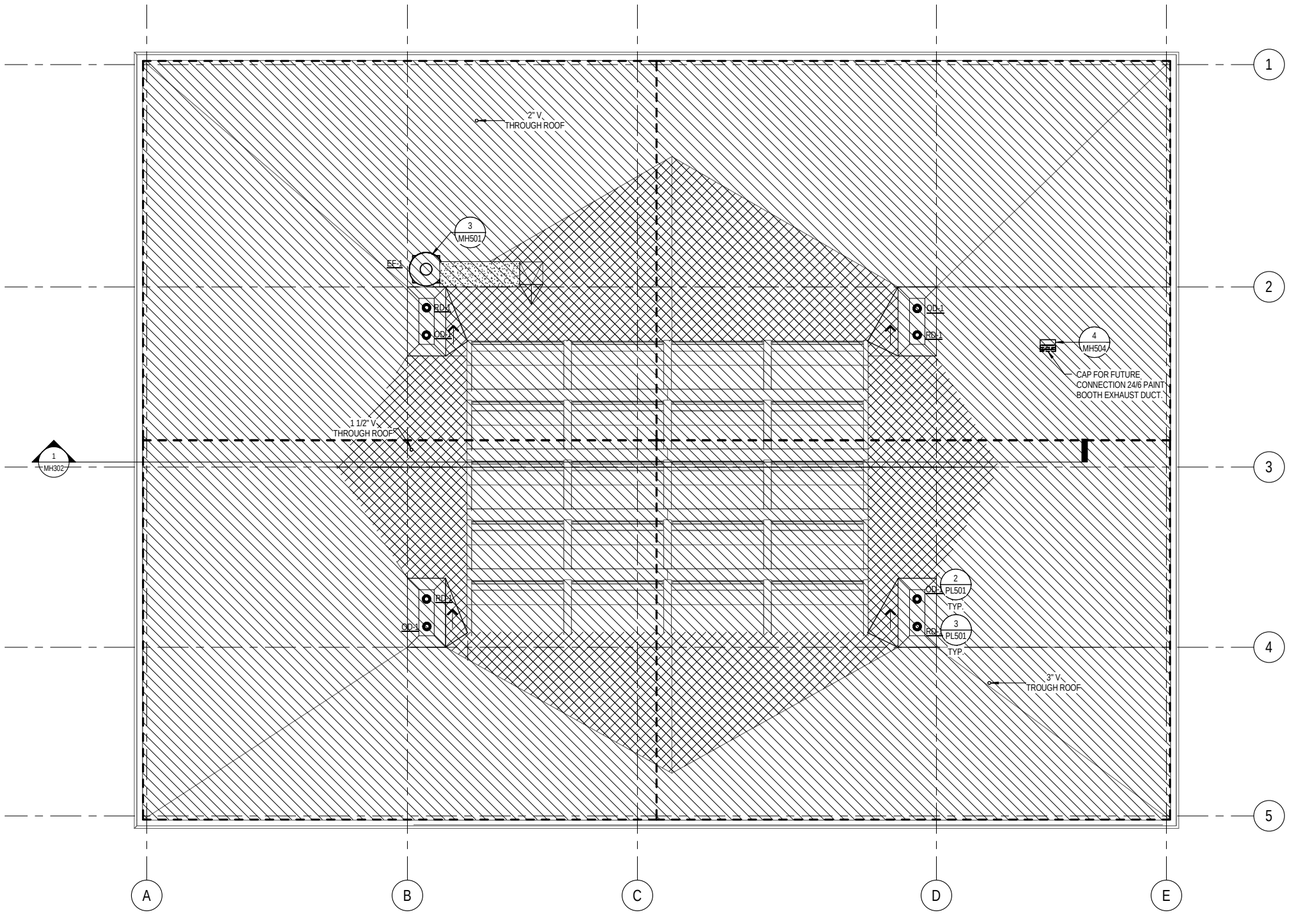
KEYED NOTES

GENERAL NOTES

A. MECHANICAL GENERAL NOTES
B.
C.



1 ROOF PLAN
SCALE: 1/8" = 1'-0"

6' 0' 4' 8' 12' 16'

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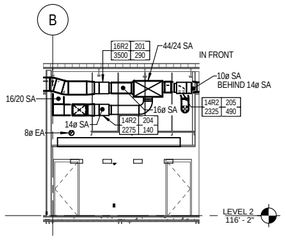
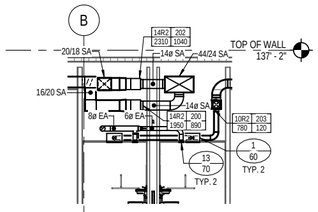
ROOF PLAN

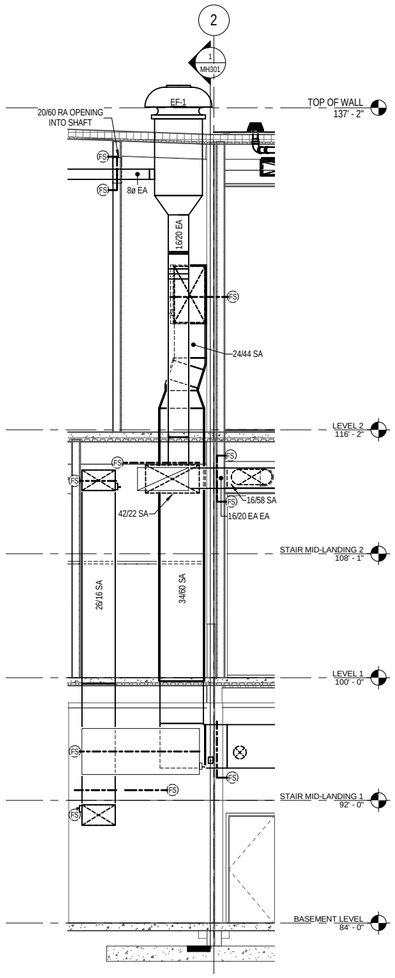
MH103

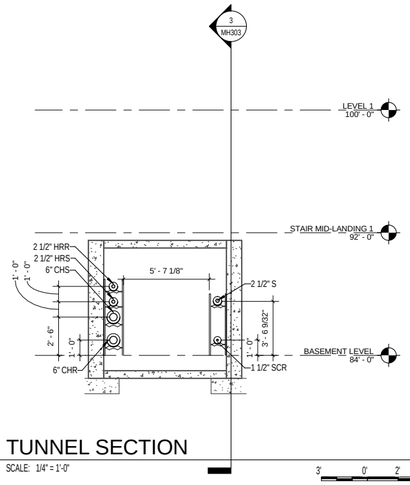


8 CORRIDOR - SOUTH
SCALE: 1/8" = 1'-0"

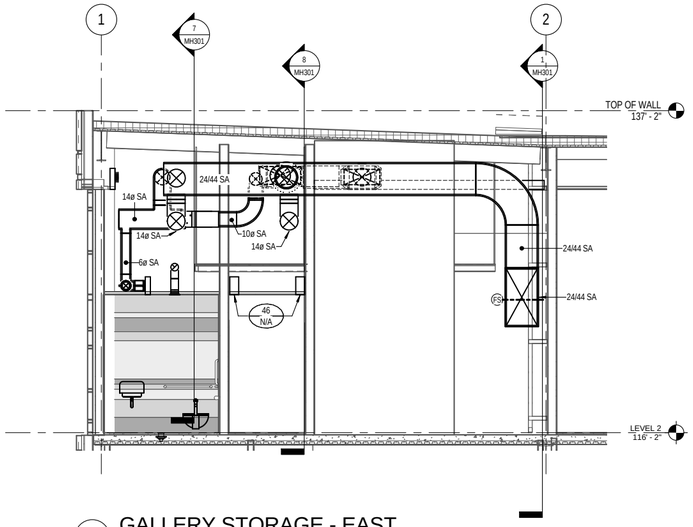


7 RESTROOM 206/205 SOUTH SECTION
SCALE: 1/8" = 1'-0"

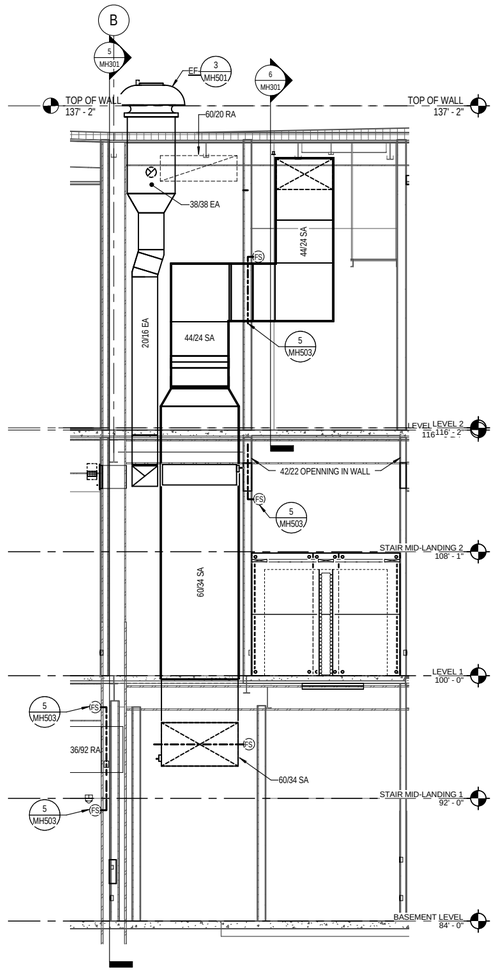




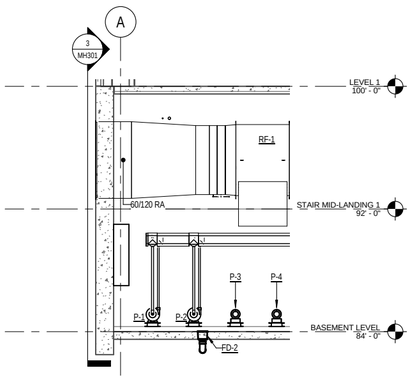
2 TUNNEL SECTION
SCALE: 1/4" = 1'-0"



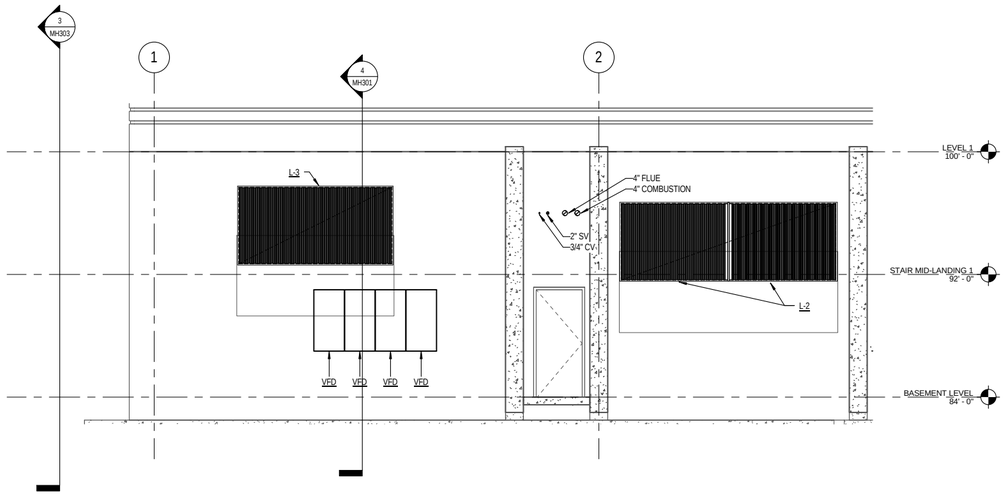
6 GALLERY STORAGE - EAST
SCALE: 1/4" = 1'-0"



5 MECHANICAL SHAFT - EAST
SCALE: 1/4" = 1'-0"



4 STEAM/CONDENSATE VENT
SCALE: 1/4" = 1'-0"
3' 0' 2' 4' 6' 8'



3 EXHAUST PENETRATIONS WEST WALL
SCALE: 1/4" = 1'-0"
3' 0' 2' 4' 6' 8'

1 MECHANCIAL SHAFT/GALLERY STORAGE SECTION - SOUTH
SCALE: 1/4" = 1'-0"
3' 0' 2' 4' 6' 8'

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MECHANICAL SECTIONS

MH301

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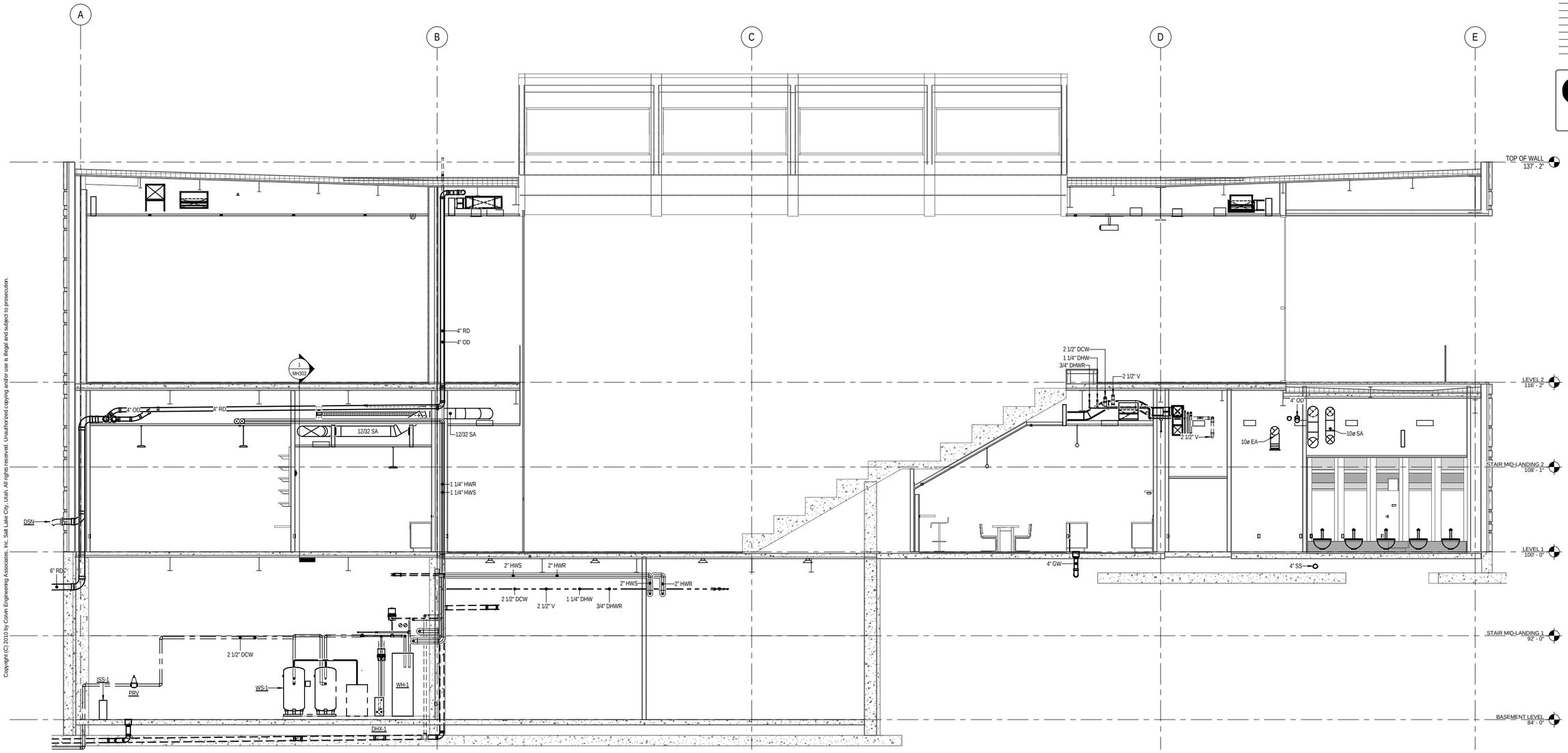

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1 BUILDING SECTION GRAND STAIRCASE
SCALE: 1/4" = 1'-0"

3' 0' 2' 4' 6' 8'

SOUTHERN UTAH MUSEUM OF ART

351 WEST UNIVERSITY BOULEVARD
CEDER CITY, UT 84720

Division of Facilities Construction Management, Southern Utah University

DRAWN BY:	ADW
CHECKED BY:	JMB
OWNER PROJECT NO.:	
GSBS PROJECT NO.:	2011-001.00
ISSUED DATE:	5/16/2012

MECHANICAL SECTIONS

MH302

GSBS
ARCHITECTS

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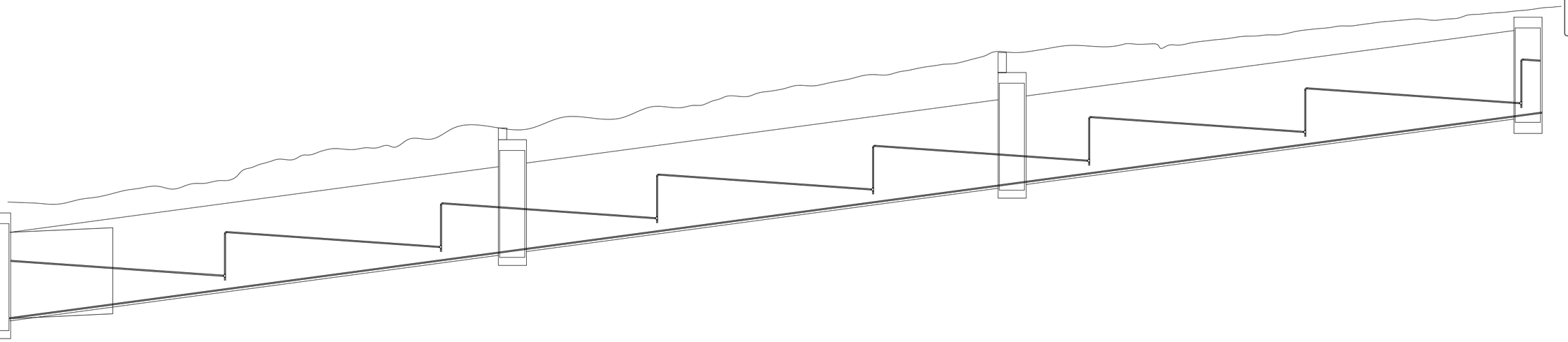
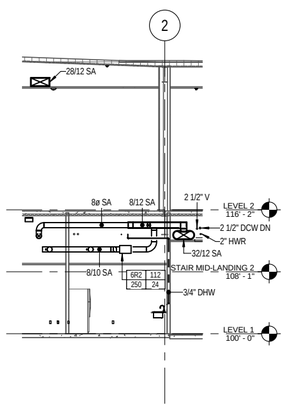


3 TUNNEL PROFILE
SCALE: 1" = 20'-0"



4 CAFE STORAGE - WEST
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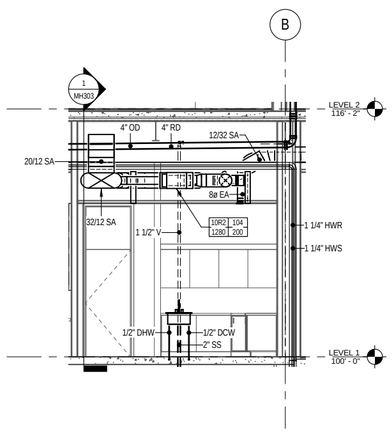
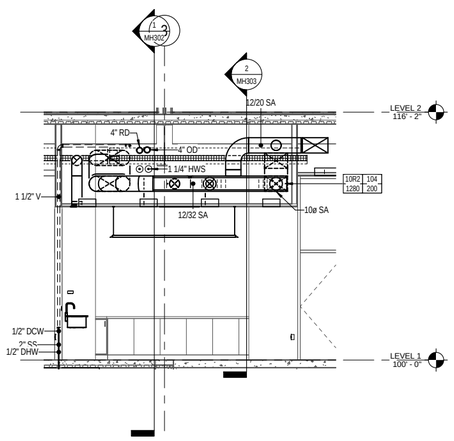


2 COPY/PANTRY - SOUTH
SCALE: 1/4" = 1'-0"



1 COPY/PANTRY - EAST
SCALE: 1/4" = 1'-0"

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MECHANCIAL SECTIONS

MH303

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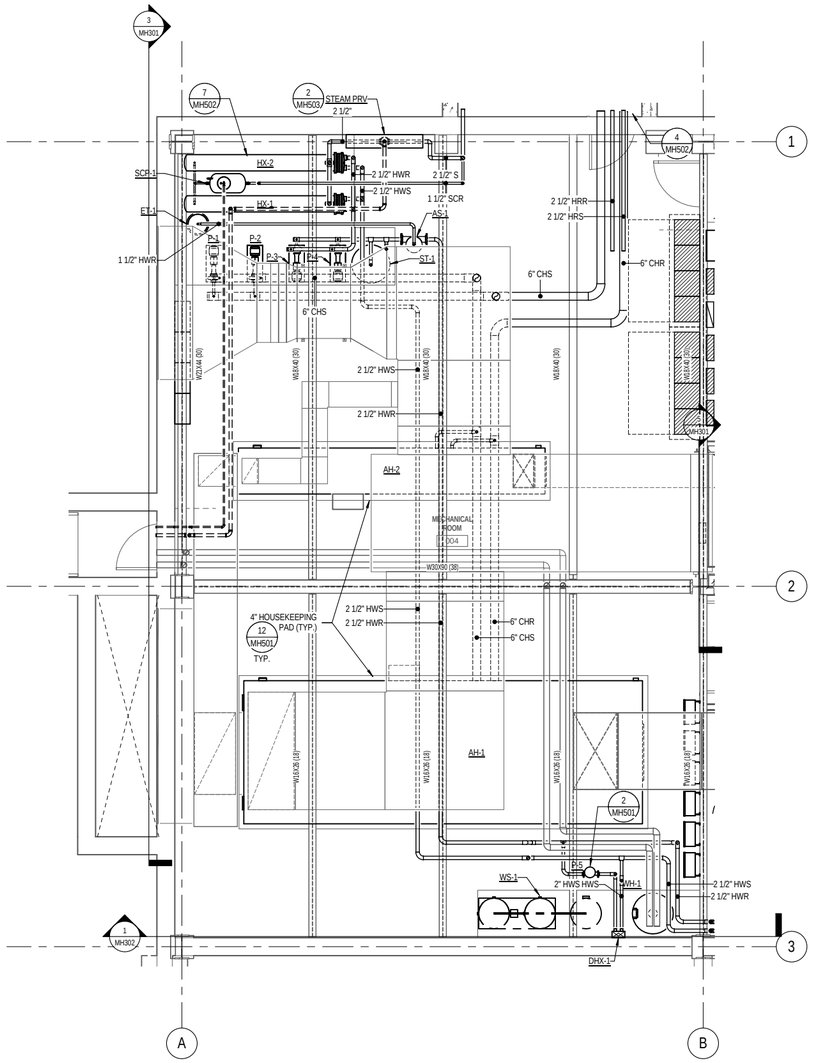
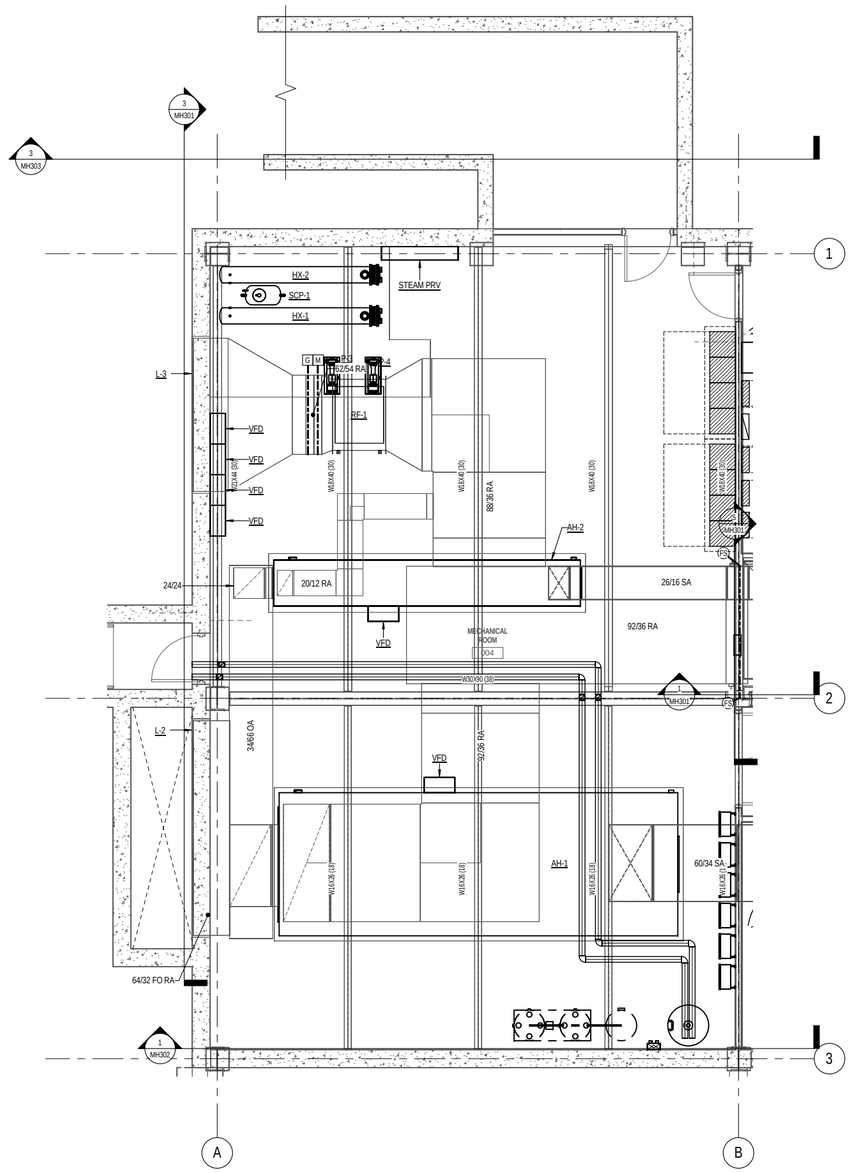


2 PIPING MECHANICAL ROOM - ENLARGED
SCALE: 1/4" = 1'-0"



1 MECHANICAL ROOM - ENLARGED
SCALE: 1/4" = 1'-0"

SOUTHERN UTAH MUSEUM OF ART

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MECHANICAL ROOM ENLARGED PLAN

MH401

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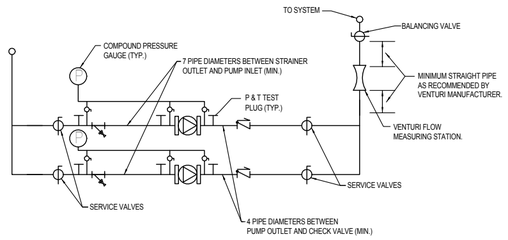
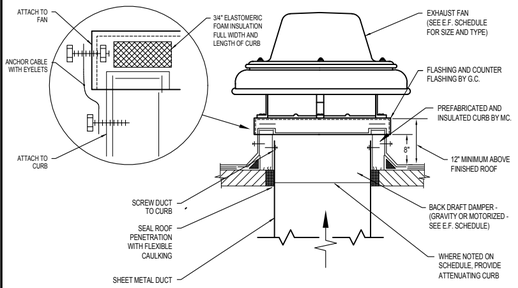
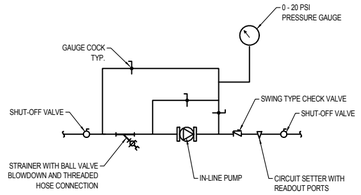


4 PARALLEL INLINE PUMP PIPING DETAIL
NO SCALE

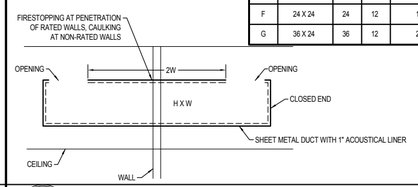


3 EXHAUST FAN AND CURB DETAIL
NO SCALE

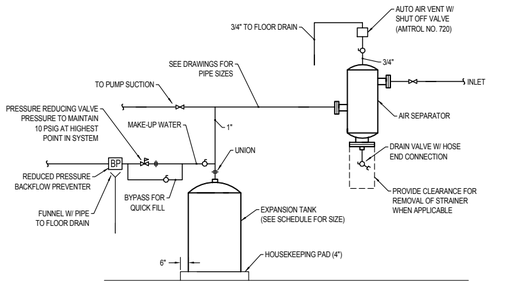


2 IN-LINE PUMP PIPING DETAIL
NO SCALE

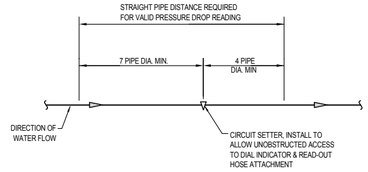
SIZE	OPENING (INXIN)	W (IN)	H (IN)	MAX. TRANSFER (CFM)	APPROX. ΔP (IN WC)
A	12 X 6	12	6	230	0.02
B	12 X 12	12	6	380	0.02
C	24 X 6	24	6	400	0.02
D	24 X 12	24	6	680	0.02
E	24 X 12	24	12	920	0.02
F	24 X 24	24	12	1500	0.02
G	36 X 24	36	12	2500	0.02



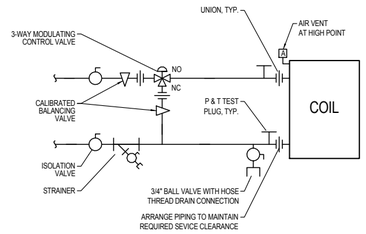
1 TRANSFER AIR DUCT (PLENUM/PLENUM)
NO SCALE



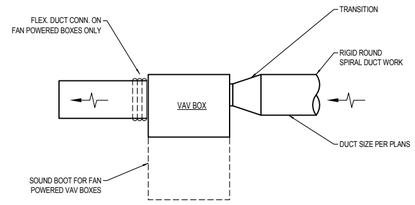
8 AIR SEPARATOR/EXPANSION TANK PIPING DETAIL
NO SCALE



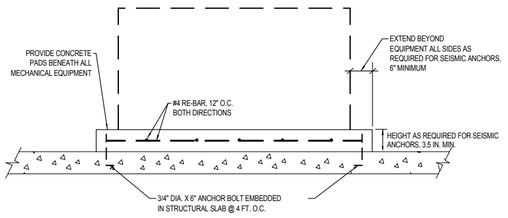
7 CIRCUIT SETTER DETAIL
NO SCALE



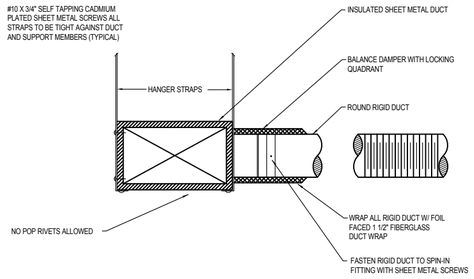
6 COIL PIPING DIAGRAM (3-WAY VALVE)
NO SCALE



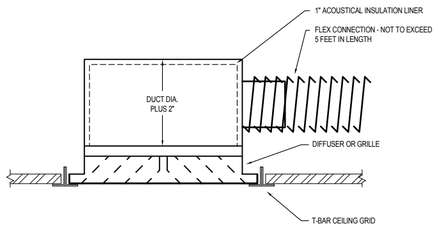
5 VAV CONNECTION DETAIL
NO SCALE



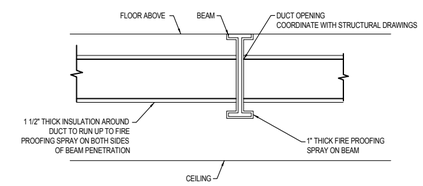
12 HOUSEKEEPING PAD DETAIL
NO SCALE



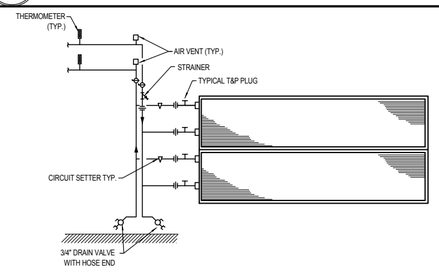
11 FLEX DUCT/SPIN-IN FITTING DETAIL
NO SCALE



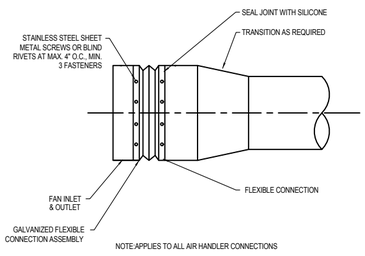
10 DIFFUSER AND GRILLE CONNECTION DETAIL
NO SCALE



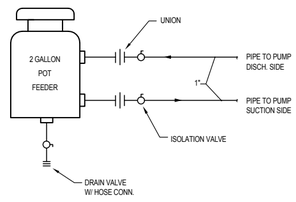
9 DUCT BEAM PENETRATION
NO SCALE



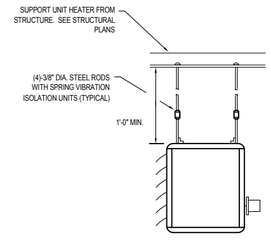
16 COIL CONNECTION (END FEED)
NO SCALE



15 FLEXIBLE CONNECTION DETAIL
NO SCALE



14 CHEMICAL POT FEEDER PIPING DETAIL
NO SCALE



13 UNIT HEATER DETAIL
NO SCALE

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DETAILS

MH501

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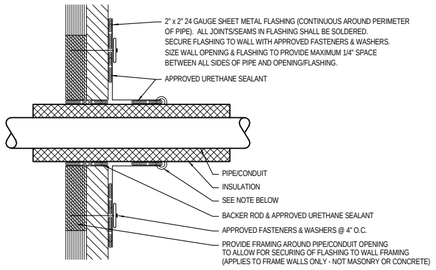
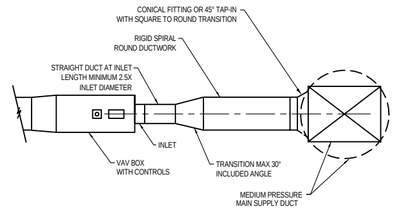


NOTE: ALSO SEAL JOINT BETWEEN FLASHING AND PIPE WITH EXTERIOR WEATHER-PROOFING SEALANT. SEALANT SHALL BE DESIGN POLYMERICS DP-1020 FIBER-REINFORCED DUCT SEALANT. APPLY SEALANT IN STRICT CONFORMANCE WITH MANUFACTURER'S WRITTEN INSTRUCTIONS.

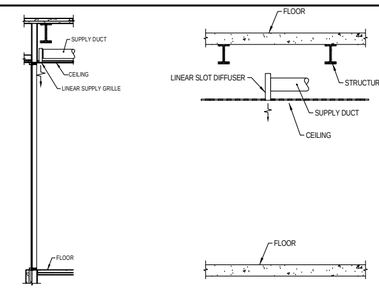
4 PIPE SLEEVE FOR INSULATED PIPE THRU WALL

NO SCALE



3 TYPICAL MEDIUM PRESSURE TAKE-OFF VAV DETAIL

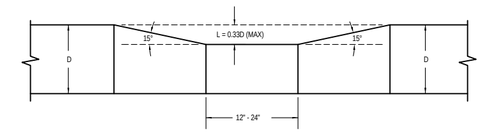
NO SCALE



AT EDGE OF CEILING ABOVE CEILNG DETAIL

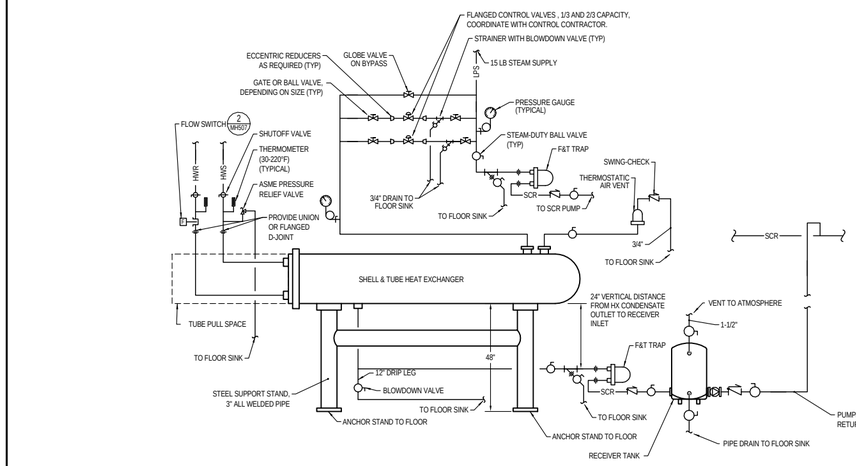
2 LINEAR DIFFUSER MOUNTING DETAILS

NO SCALE



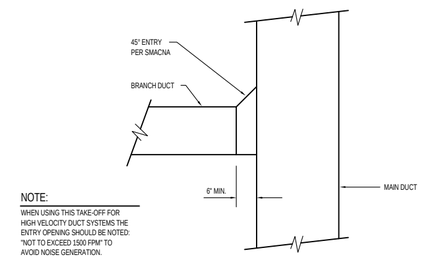
1 TYPICAL DUCT SLICE DETAIL

NO SCALE



7 STEAM HEAT EXCHANGER PIPING DETAIL

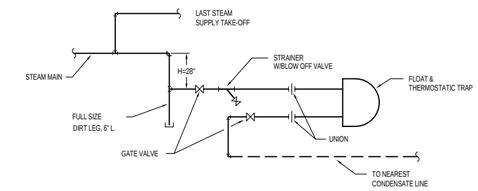
NO SCALE



NOTE:
WHEN USING THIS TAKE-OFF FOR HIGH VELOCITY DUCT SYSTEMS THE ENTRY OPENING SHOULD BE NOTED: "NOT TO EXCEED 1500 FPM" TO AVOID NOISE GENERATION.

6 TYPICAL DUCT TAKEOFF DETAIL

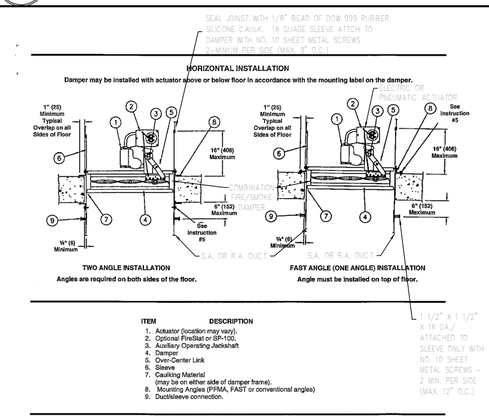
NO SCALE



5 END OF MAIN DRIP

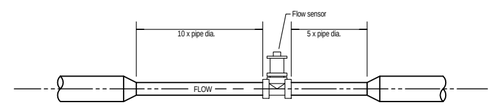
NO SCALE

15505-26



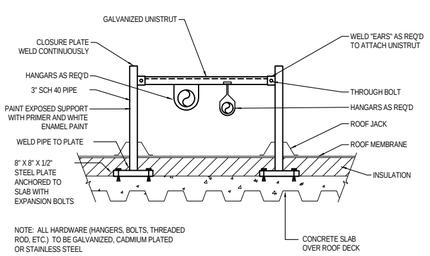
10 FIRE/SMOKE DAMPER DETAIL

NO SCALE



8 FLOW MEASURING STATION INSTALLATION DETAIL

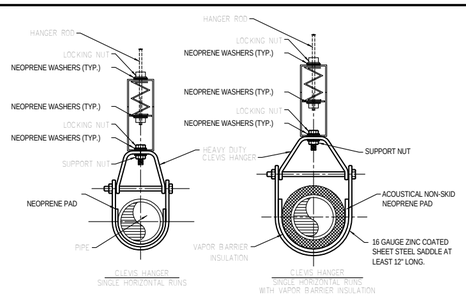
NO SCALE



NOTE: ALL HARDWARE (HANGERS, BOLTS, THREADED ROD, ETC.) TO BE GALVANIZED, CADMIUM PLATED OR STAINLESS STEEL

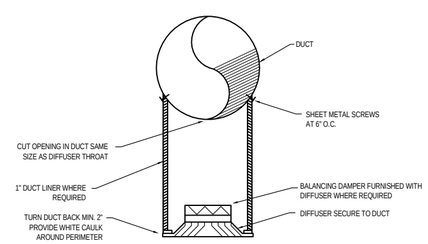
12 PIPE SUPPORT DETAIL

NO SCALE



11 HANGER DETAIL FOR PIPING REQUIRING VIBRATION ISOLATION

NO SCALE



9 DUCT MOUNTED DIFFUSER DETAIL

NO SCALE

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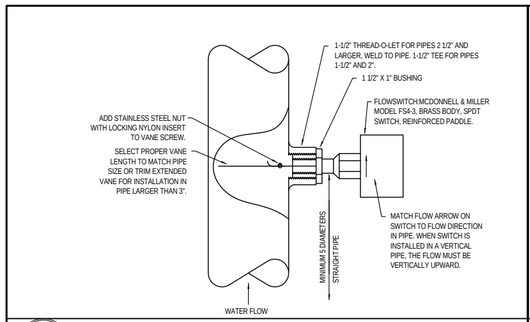
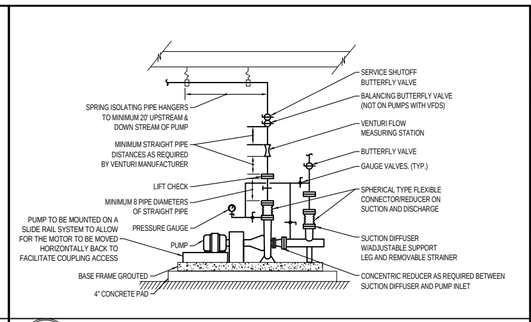
DETAILS

MH502



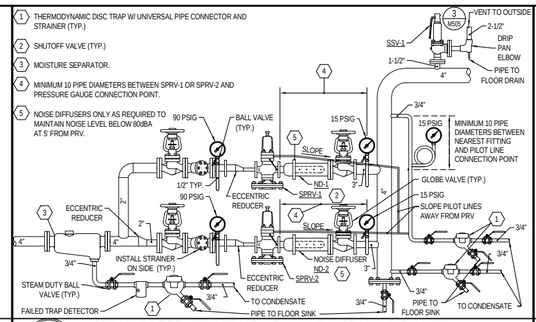
4 FLOW SWITCH INSTALLATION DETAIL

NO SCALE



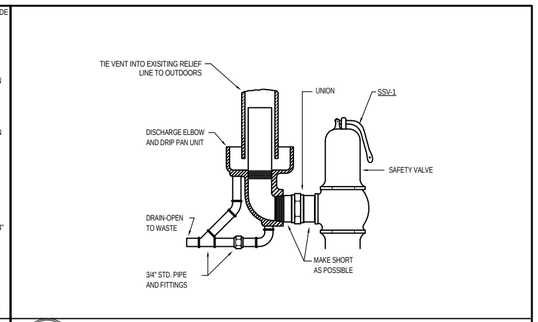
3 TYPICAL PUMP INSTALLATION DETAIL

NO SCALE



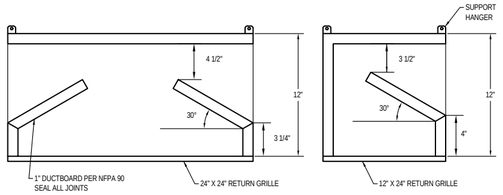
2 STEAM PRESSURE REDUCING VALVE INSTALLATION DETAIL

NO SCALE



1 STEAM DRIP PAN ELL DETAIL

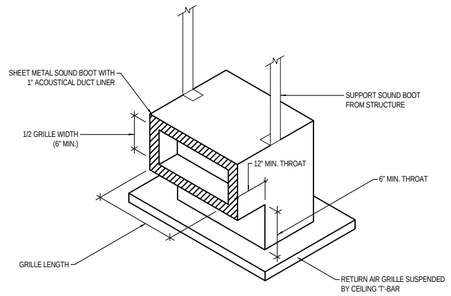
NO SCALE



TYPICAL OF ALL RETURN AIR GRILLES

8 RETURN AIR GRILLE DUCTBOARD SOUND BOOT DETAIL

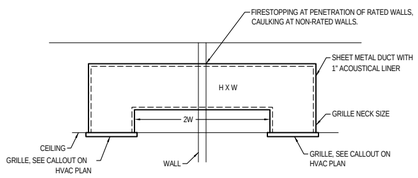
NO SCALE



7 TYPICAL RETURN AIR GRILLE W/ SOUND BOOT DETAIL

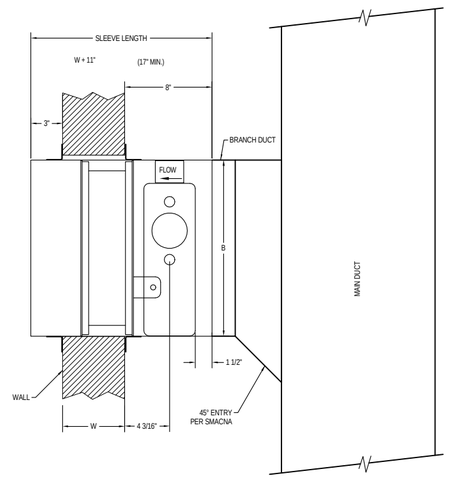
NO SCALE

SIZE	GRILLE NECK (INXIN)	W (IN)	H (IN)	MAX. TRANSFER (CFM)	APPROX. ΔS (INWC)
A	22 X 10	22	6	300	0.05
B	22 X 22	22	12	650	0.05



6 TRANSFER AIR DUCT (GRILLE/GRILLE)

NO SCALE

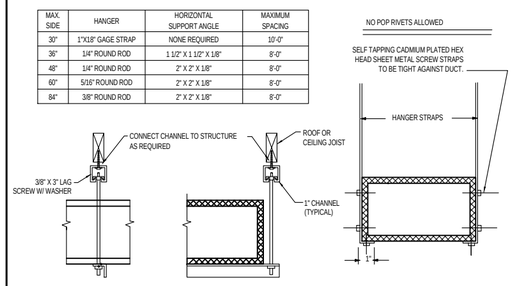


TYP. FOR UNITS OVER 20" "B" DIM.

5 FIRE/SMOKE DAMPER INSTALLATION DETAIL

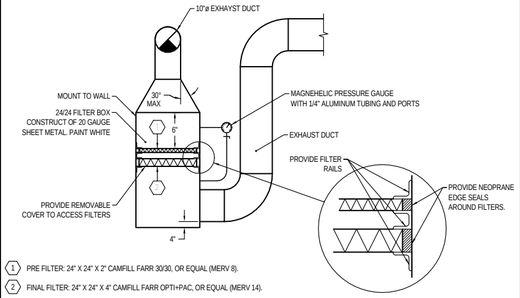
NO SCALE

MAX. SIDE	HANGER	HORIZONTAL SUPPORT ANGLE	MAXIMUM SPACING
30"	1"X18" GAGE STRAP	NONE REQUIRED	10'-0"
36"	1/4" ROUND ROD	1 1/2" X 1 1/2" X 1/8"	8'-0"
48"	1/4" ROUND ROD	2" X 2" X 1/8"	8'-0"
60"	5/16" ROUND ROD	2" X 2" X 1/8"	8'-0"
84"	3/8" ROUND ROD	2" X 2" X 1/8"	8'-0"



11 DUCT STRAP HANGER DETAIL

NO SCALE

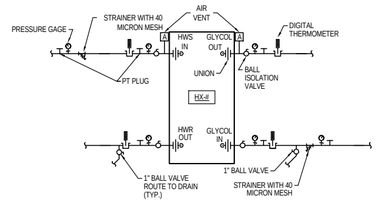


1 PRE FILTER: 24" X 24" X 2" CAMFILL FARR 30/30, OR EQUAL (MERV 8).

2 FINAL FILTER: 24" X 24" X 4" CAMFILL FARR OPTI+PAC, OR EQUAL (MERV 14).

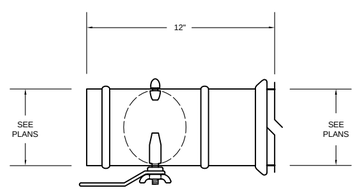
10 EARTH SCIENCE DUST EXHAUST FILTER BOX

NO SCALE



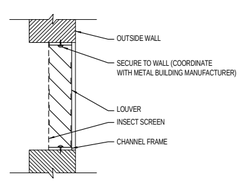
9 BRAZED PLATE HEAT EXCHANGER

NO SCALE



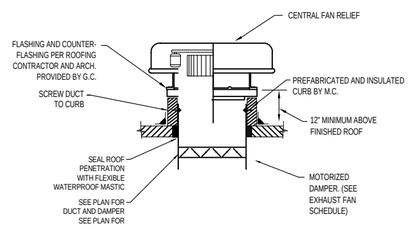
15 TYPICAL MANUAL VOLUME DAMPER DETAIL

NO SCALE



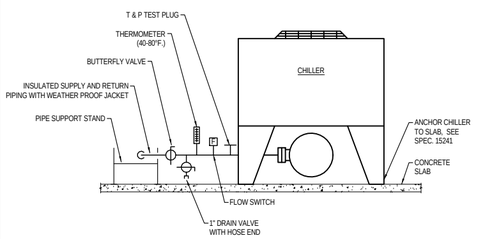
14 LOUVER DETAIL

NO SCALE



13 RELIEF FAN DETAIL

NO SCALE



NOTE:
CONNECTION TYPICAL FOR BOTH SUPPLY AND RETURN ENDS.
FLOW SWITCH REQUIRED ON SUPPLY CONNECTION ONLY.

12 CHILLER PIPING DETAIL

NO SCALE

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Division of Facilities Construction Management, Southern Utah University

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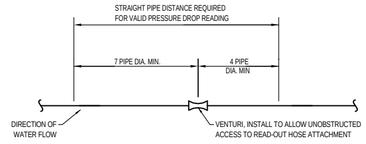
GSBS PROJECT NO.:	2011-001.00
ISSUED DATE:	5/16/2012

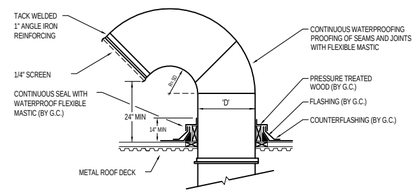
DETAILS

MH503



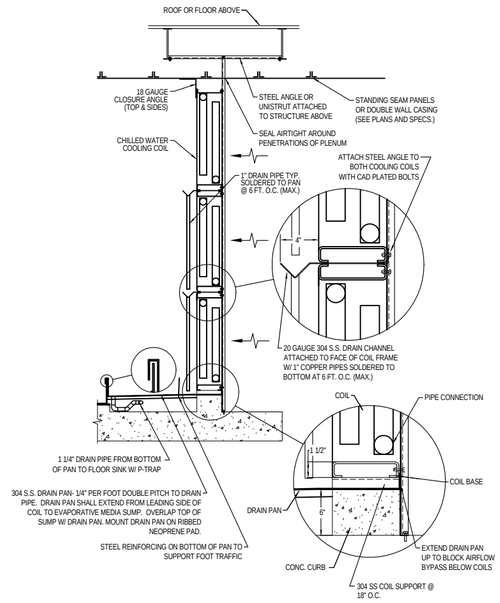
3 VENTURI INSTALLATION DETAIL

NO SCALE

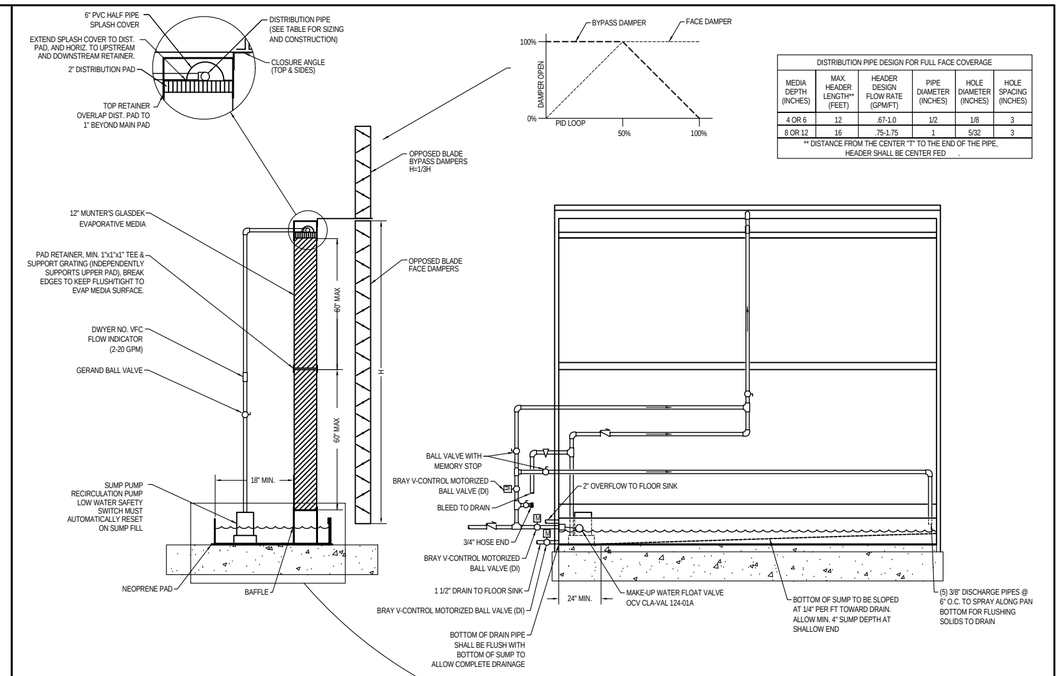


4 GOOSENECK DETAIL

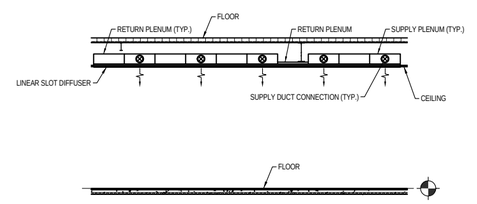
NO SCALE



BUILT UP COIL BANK DETAIL

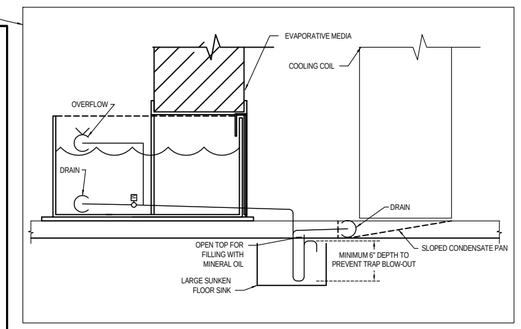


DISTRIBUTION PIPE DESIGN FOR FULL FACE COVERAGE					
MEDIA DEPTH (INCHES)	MAX. HEADER LENGTH** (FEET)	HEADER DESIGN FLOW RATE (GPM/FT)	PIPE DIAMETER (INCHES)	HOLE DIAMETER (INCHES)	HOLE SPACING (INCHES)
4 OR 6	12	.67-1.0	1/2	1/8	3
8 OR 12	16	.75-1.75	1	5/32	3
** DISTANCE FROM THE CENTER "T" TO THE END OF THE PIPE, HEADER SHALL BE CENTER FED .					



5 LINEAR SLOT DIFFUSER DETAIL

NO SCALE



1 EVAPORATIVE MEDIA DETAIL (SINGLE MEDIA)

NO SCALE

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DETAILS

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EXHAUST FAN (EF)

PLAN CODE	SCHEMATIC SHEET REFERENCE	AREA SERVED	TYPE	VOLUME (CFM)	ESP (IN WC)	SPEED (RPM)	MOTOR LOAD (B.H.P.)	MOTOR SIZE (H.P.)	MOTOR VOLTAGE & PHASE	DAMPER (GRAVITY OR MOTOR)	MAX. OPERATING WT. (LBS.)	MANUFACTURER/ MODEL	REMARKS
EF-1	-	RESTROOMS, JANITOR	HORIZONTAL CENTRIFUGAL EXHAUSTER	2600	.416	777	.728	3/4	120/1	MOTOR CD-28	100	COOK 30SEP	PROVIDE WITH DISCONNECT

ALL FAN SELECTIONS AT 75°F, UNLESS NOTED OTHERWISE. GRAVITY BACKDRAFT DAMPERS ARE FURNISHED WITH FAN.

RELIEF FAN (RF)

PLAN CODE	SCHEMATIC SHEET REFERENCE	SYSTEM SERVED	TYPE	VOLUME (CFM)	ESP (IN WC)	SPEED (RPM)	MOTOR LOAD (B.H.P.)	MOTOR SIZE (H.P.)	MOTOR VOLTAGE & PHASE	METHOD OF CONTROL	MAX. OPERATING WT. (LBS.)	MANUFACTURER / MODEL
RF-1	-	WHOLE BUILDING	AXIAL INLINE	28,000	0.5	609	4.3	5	460/3	VFD	2500	COOK 54AFBV-C

AIR SEPARATOR (AS)

PLAN CODE	DESIGN FLOW (GPM)	SYSTEM SERVED	CONNECTION SIZE	MAX. FLOW (GPM)	MAX P.D. (FT)	MAX. DIMENSIONS DIA. (IN.)	MAX. DIMENSIONS H (IN.)	MAX. DIMENSIONS FLANGE TO FLANGE (IN.)	OPER. WT. (LBS.)	MANUFACTURER & MODEL NO.
AS-1	160	HEATING WATER	4"	160	1	9	24	21	107	SPIROVENT SENIOR VSR-400
AS-2	300	CHILLED WATER	6"	300	1	13	31	28	200	SPIROVENT SENIOR VSR-500

EXPANSION TANK (ET)

PLAN CODE	SYSTEM SERVED	WATER TEMP. (°F)	% GLYCOL	TANK VOL. (GAL)	ACCEPTANCE VOL. (GAL)	PRE-CHARGE (PSI)	MAX. DIMENSIONS DIA. (IN.)	MAX. DIMENSIONS H (IN.)	MAX. DIMENSIONS OPERATING WT. (LBS)	MANUFACTURER & MODEL NO.
ET-1	HEATING WATER	200	0	8.2	6.6	12	24	37	65	AMTROL 35 LBC
ET-2	CHILLED WATER	60	0	4.6	3.7	12	24	37	65	AMTROL 35 LBC

STORAGE TANK SCHEDULE (ST)

PLAN CODE	VOLUME (GALLONS)	DIMENSIONS DIAMETER (IN.)	DIMENSIONS HEIGHT (IN.)	CONNECTION SIZES WATER IN (IN.)	CONNECTION SIZES WATER OUT (IN.)	MANUFACTURER & MODEL NO.	REMARKS
ST-1	175	32	77	2	2	A.O. SMITH TJV-200M	INSULATION TO BE NO LESS THAN R-12.5.

LOUVER SCHEDULE (L)

PLAN CODE	SYSTEM SERVED	APPLICATION	VOLUME (CFM)	FREE AREA SQ. FT.	PRESSURE DROP (IN WC)	MAX. DIMENSIONS (W x H) (IN)	MANUFACTURER & MODEL NO.
L-1	AH-3	RETURN AIR	2,775	6.51	0.04	24" X 96"	RUSKIN EME4625
L-2	AH-1, AH-2, AH-3	INTAKE	34,500	39.55	0.14	120" x 78"	RUSKIN ELF6375DX
L-3	AH-1, AH-2, AH-3	RELIEF	34,500	29.81	0.16	96" x 72"	RUSKIN ELF6375DX

VAV REHEAT BOXES

PLAN CODE — BOX NO. — MAX COOLING CFM — MIN. COOLING CFM

PLAN CODE	Inlet Size	Max (Primary CFM)	Min Oper PD (in.wg)	Min (Primary CFM)	Reheat (CFM)	EAT °F	LAT °F	EWT °F	LWT °F	Fluid Flow (GPM)	Coil Capacity (MBH)	MBH to Space at 15F TD	Fluid PD (ft.wg)	Rows	Max Discharge NC	Max Radiated NC
6R1	6	450	0.3	60	200	55	88	180	151	0.4	6	3	0.1	1	<20	20
6R2	6	450	0.4	60	450	55	88	180	137	0.7	14	6	0.1	2	<20	20
8R1	8	800	0.2	120	400	55	88	180	165	1.8	12	6	2.0	1	<20	24
8R2	8	800	0.4	120	800	55	88	180	141	1.3	25	11	0.3	2	<20	22
10R1	10	1350	0.3	200	550	55	88	180	165	2.4	17	8	0.6	1	<20	<20
10R2	10	1350	0.5	200	1350	55	88	180	141	2.2	42	19	1.1	2	<20	<20
12R1	12	2100	0.3	275	800	55	88	180	165	3.5	25	11	1.6	1	21	21
12R2	12	2100	0.7	275	2100	55	88	180	143	3.7	66	29	3.7	2	<20	<20
14R1	14	3000	0.3	400	1200	55	88	180	164	4.8	37	17	4.2	1	23	28
14R2	14	3000	0.6	400	3000	55	88	180	143	5.1	94	41	4.3	2	<20	25
16R1	16	4000	0.4	525	1400	55	88	180	161	4.8	44	19	4.5	1	24	30
16R2	16	3800	0.7	525	3400	55	88	180	138	5.1	106	47	4.6	2	<20	26
24/16R1	24x16	8000	0.5	1050	2000	55	87	180	148	4.0	61	28	4.5	1	35	36
24/16R2	24x16	6000	0.7	1050	4200	55	88	180	120	4.4	131	58	4.5	2	29	30

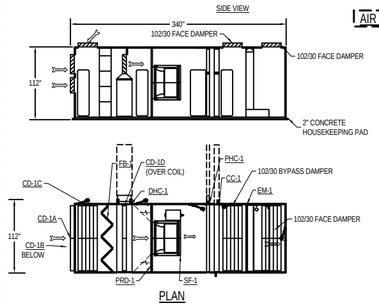
FOOTNOTES:
A - SELECTIONS BASED UPON PRICE AS MANUFACTURER.
B - SOUND POWER LEVELS AND NC'S ARE BASED ON TESTS CONDUCTED IN ACCORDANCE WITH ARI STANDARD 880-98.
C - ROOM NC LEVELS SHOWN INCLUDE ATTENUATION FACTORS OBTAINED FROM ARI STANDARD 885-98.
D - CHECK SUBMITTAL DRAWINGS FOR EXACT DIMENSIONS.
E - AIRFLOW UNITS ARE CUBIC FEET PER MINUTE, WATER FLOW UNITS ARE US GALLONS PER MINUTE, ALL TEMPERATURES IN DEGREES FAHRENHEIT, HEAD LOSS IN FEET OF WATER, AIR PRESSURE DROP IN INCHES OF WATER GAUGE.
G - BLANKS (-) INDICATE A SOUND POWER LEVEL OF NC UNDER 20.
H - WATER COIL PERFORMANCE HAS BEEN RATED AND CERTIFIED IN ACCORDANCE WITH THE EDITION OF ARI STANDARD 410.

PUMP SCHEDULE (P)

PLAN CODE	TYPE	DUTY	FLOW (GPM)	PRESSURE (FT)	PUMP SPEED (RPM)	MIN EFF (%)	FLUID	MOTOR LOAD (BHP)	MOTOR SIZE (HP)	MOTOR EFF (%)	MOTOR VOLT/ PH	PUMP & MOTOR WT (LBS)	MANUFACTURER & MODEL NO	REMARKS
P-1	BASE MOUNT	CHILLED WATER	115	130	3500	59	25% PPG	6.5	10	60.52	208/3	175	BELL & GOSSET 1510-1 1/2AC	-
P-2	BASE MOUNT	CHILLED WATER	115	130	3500	59	25% PPG	6.5	10	60.52	208/3	175	BELL & GOSSET 1510-1 1/2AC	-
P-3	BASE MOUNT	HEATING WATER	30	60	1750	-	WATER	1.5	2	55.07	208/3	185	BELL & GOSSETT 1510-1-1/4BC	-
P-4	BASE MOUNT	HEATING WATER	30	60	1750	-	WATER	1.5	2	55.07	208/3	185	BELL & GOSSETT 1510-1-1/4BC	-
P-5	INLINE	HEATING WATER	40	15	3,250	-	WATER	4.7 AMPS	2/5	-	115/1	20	BELL & GOSSETT PL-55	ALL BRONZE WITH 1.25" CONNECTIONS
P-6	INLINE	HEATING RECOVERY	25	30	-	-	25% PPG	0.4	1	50	208/3	85	BELL & GOSSETT 60-1 1/2" X 6 1/4"	-
P-7	INLINE	AH-1 HEATING COIL	30	27	3,250	-	WATER	4.7 AMPS	2/5	-	115/1	20	BELL & GOSSETT PL-55	-
P-8	INLINE	AH-2 HEATING COIL	8	17	2,650	-	WATER	1.4 AMPS	1/12	-	115/1	20	BELL & GOSSETT PL-30	-

1 SELECT PUMP BODY AND MOTOR TO PROVIDE SCHEDULE FLOW AT SCHEDULED PRESSURE, AS WELL AS 120% OF SCHEDULE PRESSURE WITH IMPELLER CHANGE ONLY. PROVIDE PUMP CURVE FOR BOTH CONDITIONS IN SUBMITTAL PACKAGE.

AIR HANDLER AH-1



AIR HANDLER (AH)

PLAN CODE	CFM	OSA MIN (CFM)	ESP (IN WC)	MAX. OVERALL DIMENSIONS LENGTH (IN)	MAX. OVERALL DIMENSIONS WIDTH (IN)	MAX. OVERALL DIMENSIONS HEIGHT (IN)
AH-1	34,500	5,500	3	320	112	112

1. ALL ACCESS DOORS ARE 18" WIDE EXCEPT 24" FAN ACCESS DOORS
2. SOLID LINER UPSTREAM OF FANS AND DOWNSTREAM OF DIRECT EVAPORATIVE COIL, PERFORATED LINER ALL OTHER LOCATIONS, 2" PLENUM WALLS

EVAPORATIVE MEDIA (EM)

PLAN CODE	PERFORMANCE AIR VOLUME (CFM)	PERFORMANCE SATURATION EFFICIENCY (%)	PERFORMANCE MAXIMUM ACTIVE MEDIA FACE VELOCITY (FPM)	PERFORMANCE MAXIMUM PRESSURE DROP (IN WC)	MEDIA [1] THICKNESS (IN)	MEDIA [1] CONSTRUCTION	SUMP CONSTRUCTION
EM-1	34,500	90+	550	0.25	12	CELDEK	STAINLESS STEEL

1. REFERENCE DETAIL - MP502

PRESSURE RELIEF DOORS (PRD)

PLAN CODE	QUANT.	SERVICE	PRESSURE SETTING (IN WC)	SIZE (IN X IN)	MAKE & MODEL
PRD-1	4	SUPPLY	6	18 X 18	RUSKIN PRD 18

SUPPLY FAN (SF)

PLAN CODE	FAN TYPE	FAN CONFIGURATION	FAN CONSTRUCTION	FAN FLOW (CFM)	FAN TSP (IN WC)	FAN MIN EFF (%)	FAN LOAD (BHP)	FAN EAT (F)	FAN WHEEL SIZE (IN)	FAN SPEED (RPM)	FAN CLASS	MOTOR HP	MOTOR VOLTAGE/ PHASE	MOTOR VOLUME CONTROL
SF-1	BI AF	PLENUM	STANDARD	31,000	5.0	75	33	55	44.5	1,018	II	40	460/3	VFD

COIL (C)

PLAN CODE	SERVICE	AIR SIDE VOLUME (CFM)	AIR SIDE MAX.FACE VELOCITY (FPM)	AIR SIDE EAT (DBT / WBT)	AIR SIDE LAT (DBT/WBT)	AIR SIDE MAX. APD (IN WC)	FLUID SIDE FLUID	FLUID SIDE EFT (F)	FLUID SIDE LFT (F)	FLUID SIDE FLOW RATE (GPM)	FLUID SIDE MAXIMUM FPD (FT)	FLUID SIDE MIN. TUBE VELOCITY (FPS)	CONFIGURATION MIN. ROWS	CONFIGURATION FPI	CONFIGURATION NOMINAL COIL
HC-1	HEATING	15,000	210	45/-	65/-	0.04	FW	83	64	15 PER COIL	6	2.17	2	10	2 @ 102W X 51H 9 CIRCUITS WAFFLE FINS
CC-1	CHILLED	34,500	430	65.8/56.1	54.0/-	0.15	25% PG	45.4	52.5	47 PER COIL	12.6	3.4	3	10	2 @ 102W X 51H 17 CIRCUITS WAFFLE FINS
DHC-1	DEHUMIDIFICATION	16,750	370	75.4/58.6	39.9/39.7	0.40	25% PG	34.3	48.3	94	24	3.1	14	8	1 @ 102W X 57H 38 CIRCUITS FLAT FINS

FILTER BANK (FB)

PLAN CODE	MERV [1]	MAX. CLEAN PD (IN WC)	DESIGN PD (IN WC)	INDIVIDUAL FILTER DIMENSIONS LENGTH (IN)	INDIVIDUAL FILTER DIMENSIONS HEIGHT (IN)	INDIVIDUAL FILTER DIMENSIONS DEPTH (IN)	QUANTITY (EA)
FB-1	13	0.30	0.50	24	24	4	AS REQ.

AIR HANDLER CONTROL DAMPER (AHD)

PLAN CODE	SCHEMATIC SHEET REFERENCE	SERVICE	BLADE ACTION	FLOW (CFM)	DIMENSIONS W X H (IN)	REMARKS
CD-1A	MH202	OUTSIDE	PARALLEL	29,000	102 X 30	DIRECT AIR TOWARD CD-1C
CD-1B	MH202	MIN. OSA	PARALLEL	5,500	20 X 24	CONTROL TO MIN. OSA FLOW
CD-1C	MH202	RETURN	PARALLEL	34,500	102 X 30	DIRECT AIR TOWARD CD-1A
CD-1D	MH202	BYPASS	PARALLEL	34,500	102 X 30	CONTROL TO DEHUMIDIFICATION NEEDS
CD-1E	MH202	FACE	PARALLEL	34,500	102 X 30	CONTROL TO DEHUMIDIFICATION NEEDS
CD-1F	MH202	BYPASS	PARALLEL	34,500	102 X 30	CONTROL TO DEHUMIDIFICATION NEEDS

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MECHANICAL SCHEDULES

MH601

HVAC EQUIPMENT/ CONTROL DAMPERS

PLAN CODE	SCHEMATIC SHEET REFERENCE	PLAN SHEET REFERENCE	SERVICE	BLADE ACTION	FLOW (CFM)	DIMENSIONS H X W (IN)	REMARKS
CD-1	-	-	BLDG RELIEF	OPPOSED	25,000	48 X 60	

UNIT HEATER SCHEDULE (UH) HORIZONTAL BLOW

PLAN CODE	CFM @ ELEV.	HEATING CAP. (MBH) (LOW SPD)	GPM	WPD (FT)	EWT/LWT (°F)	EAT (°F)	MOTOR HP	MOTOR VOLTAGE & PHASE	MOUNTING	MOUNTING HEIGHT TO BOTTOM OF HEATER	MANUFACTURER & MODEL NO.	REMARKS
UH-1	315	8	.8	.02	180/160	60	1/25	115/1	(2)	9'-6"	TRANE UHSA-020-W2	HORIZONTAL BLOW

(1) WALL BRACKET
(2) HANG FROM CEILING OR ROOF STRUCTURE.

AIR-COOLED CHILLER SCHEDULE (CH)

PLAN CODE	CAPACITY TONS (NOM)	CHILLED WATER EWT (°F)	CHILLED WATER LWT (°F)	CHILLED WATER GPM	CHILLED WATER PD (FT)	NET COOLING MBH	ELEVATION	FLUID	AMBIENT TEMP (°F)	EER	IPLV	COMPRESSOR NO	COMPRESSOR CAPACITY STEPS	CONDENSER FANS NO	CONDENSER FANS CFM (ALT)	ELECTRICAL VOLT/ PH	ELECTRICAL MCA	ELECTRICAL MFS (AMPS)	MAX DIMENSIONS (IN) LENGTH	MAX DIMENSIONS (IN) WIDTH	MAX DIMENSIONS (IN) HEIGHT	MAX OPERATING WT (LBS)	MANUFACTURER & MODEL NO	REMARKS
CH-1	40	50	42	115	40	441	5900	25% PPG	97	-	-	4	4	4	37,300	208/3	197	225	114	89	85	4,500	TRANE CGAM 40	SOUND POWER LEVEL <90 DBA FLOW: MIN=57 GPM, MAX=136 GPM. PROVIDE WITH HEAT RECOVERY HEAT EXCHANGER
CH-2	80	42	32.5	115	9	441	5900	25% PPG	97	-	-	4	4	6	56,800	208/3	358	400	144	89	93	6,900	TRANE CGAM 80	SOUND POWER LEVEL <90 DBA FLOW: MIN=115 GPM, MAX=276 GPM. PROVIDE WITH HEAT RECOVERY HEAT EXCHANGER

STEAM TRAP SCHEDULE (ST) NOT FINISHED

PLAN CODE	SERVICE	TYPE	CAP LB/HR	PRESS DIFF	MANUFACTURER & MODEL NO
ST-1	HX-1	F & T	1,200	1/4 PSI	SPIRAX/SARCO -
ST-2	HX-2	F & T	1,200	1/4 PSI	SPIRAX/SARCO -

FLOW METER (FM) NOT FINISHED

PLAN CODE	SERVICE	SHEET REFERENCE PLAN	SHEET REFERENCE SCHEMATIC	FLOW RANGE (GPM)	LINE SIZE (IPS)	DESCRIPTION	MAKE/MODEL
FM-1	STEAM	MP404	MP201	0 - 785	6"	WETTED ULTRASONIC TRANSDUCER WITH ENERGY MEASUREMENT OPTIONS	GE-DF-868
FM-2	CONDENSATE	MP402	MP202	0 - 950	8"	WETTED ULTRASONIC TRANSDUCER WITH ENERGY MEASUREMENT OPTIONS	GE-DF-868

STEAM PRESSURE RELIEF VALVE (SSRV)

PLAN CODE	SERVICE	SIZE (IN) INLET	SIZE (IN) OUTLET	PRESSURE SIZE (PSIG) INLET	ORIFICE TYPE	CAPACITY (LBS./HR.)	MANUFACTURER & MODEL No.	REMARKS
SSV-1	HEATING HW HX	1-1/2"	2"	60	F	900	SPIRAX SARCO SV74VSF60	PROVIDE WITH DRIP PAN ELBOW

STEAM CONDENSATE PUMP SCHEDULE (SCP)

PLAN CODE	SYSTEM SERVED	PUMP DISCHARGE PRESSURE (PSIG)	PUMP CAPACITY (GPM EACH)	COND RATE (GPM)	RECEIVING TANK CAP (GAL.)	MAX DIMENSIONS LENGTH (IN)	MAX DIMENSIONS WIDTH (IN)	MAX DIMENSIONS HEIGHT (IN)	MAX DIMENSIONS WEIGHT (LBS.)	ELECTRICAL RPM	ELECTRICAL HP	ELECTRICAL VOLTAGE/ PHASE	MANUFACTURER & MODEL NO	REMARKS
SCP-1	HX-1 HX-2	20	18	3	14	24	24	12	200	3500	1/3	-	B&G WATCHMAN WCD12-20B-MA DUPLEX SYSTEM	RECIEVER MOUNTED CONTROL PANEL CONTAINS STARTERS, DISCONNECTS, SEQUENCER, ALARMS, H-O-A SWITCHES

STEAM SYSTEM NOISE DIFFUSER SCHEDULE (ND)

PLAN CODE	SERVICE	SIZE (IN) INLET	SIZE (IN) OUTLET	SIZE (IN) MAX LENGTH	MANUFACTURER & MODEL No.	MIN. NOISE REDUCTION (DBA)	REMARKS
ND-1	HEATING HW HX	3/4"	2"	10.5	SPIRAX SARCO D1	15	-
ND-2	HEATING HW HX	3/4"	2"	10.5	SPIRAX SARCO D1	15	-

STEAM PILOT OPERATED PRV SCHEDULE (SPRV)

PLAN CODE	AREA SERVED	PRESSURE (PSIG) UPSTREAM	PRESSURE (PSIG) DOWNSTREAM	CAPACITY (LBS./HR.)	SIZE (IN.)	MANUFACTURER & MODEL No.	REMARKS
SPRV-1	HW HX	60	15	450	3/4"	SPIRAX SARCO 25P -	WITH ACOUSTIC AND INSULATION BLANKET
SPRV-2	HW HX	60	15	450	3/4"	SPIRAX SARCO 25P -	WITH ACOUSTIC AND INSULATION BLANKET

HEAT EXCHANGER (HX)

PLAN CODE	SYSTEM SERVED	HOT SIDE (STEAM) COND. (GPM)	HOT SIDE (STEAM) STEAM (LBS/HR)	HOT SIDE (STEAM) STEAM PRESS. (PSI)	COLD SIDE CAP. (MBH)	COLD SIDE EWT/ LWT °F	COLD SIDE GPM	COLD SIDE P.D. (FT.)	COLD SIDE FLUID	COLD SIDE SYSTEM OPERATING PRESSURE (PSIG)	FOULING RESISTANCE	UNIT BOX DIMENSIONS L (IN.)	UNIT BOX DIMENSIONS W (DIA) (IN.)	UNIT BOX DIMENSIONS MOUNT. HEIGHT (IN.)	UNIT BOX DIMENSIONS WEIGHT (LBS.)	TYPE	MANUFACTURER & MODEL NO.
HX-1	BUILDING HEAT	1.8	864	5	830	160/180	85	0.4	FW	125	0.0005	42	9	60	500	SHELL & TUBE	ITT B & G -
HX-2	BUILDING HEAT	1.8	864	5	830	160/180	85	0.4	FW	125	0.0005	42	9	60	500	SHELL & TUBE	ITT B & G -

CABINET UNIT HEATER SCHEDULE (CUH)

PLAN CODE	CFM @ ELEV	MIN HEATING CAPACITY (MBH) (LOW SPD)	GPM	MAX WPD (FT)	EWT/ LWT (°F)	EAT (°F)	MOTOR HP	MOTOR VOLT/ PH	MOUNTING	CONFIG	MAX DIMENSIONS W x H x D (IN)	MANUFACTURER & MODEL NO	REMARKS
CUH-1	200	12.4	1.0	1.0	180/155	60	1/60	120/1	RECESSED	INVERTED FLOW	42 x 25.5 x 10	TRANE MODEL "N" SIZE 02	REMOTE MOUNTED THERMOSTAT ON WALL, RECESSED FLANGE.

DUST COLLECTOR SCHEDULE (DC)

PLAN CODE	TYPE	CFM @ ELEV.	MAX ESP (@ ELEV.)	RPM	MOTOR HP	MOTOR VOLTAGE & PHASE	INTAKE SIZE	L x W x H (IN)	FILTER AREA	MAX OPERATING WT. (LBS.)	MANUFACTURER/ MODEL
DC-1	BAG	1280	10.1"	-	1.5	-	6"	24 x 24 x 48	244 FT²	-	SHOP FOX W1685

AIR DEVICE SCHEDULE

PLAN CODE — GRILLE CFM

PLAN CODE	TYPE & DUTY	FACE SIZE	NECK SIZE	CEILING TYPE (2)	MAX CFM	MAX TP (IN WC)	NC LEVEL MAX	MIN THROW (FT) (T50)	4-WAY MIN THROW (T50)	2-WAY MIN THROW (T50)	MANUFACTURER & MODEL NO	REMARKS
1	LINEAR-SUPPLY	24"L	6"ø	MATCH CEILING	80	0.08	32	12	-	-	TEMPO L.D.	1 @ 1" SLOT
2	LINEAR-SUPPLY	24"L	8"ø	MATCH CEILING	160	0.09	33	13	-	-	TEMPO L.D.	2 @ 1" SLOT
3	LINEAR-SUPPLY	24"L	8"ø	MATCH CEILING	240	0.10	34	14	-	-	TEMPO L.D.	3 @ 1" SLOT
4	LINEAR-SUPPLY	24"L	10"ø	MATCH CEILING	320	0.11	35	15	-	-	TEMPO L.D.	4 @ 1" SLOT
9	PERFORATED RETURN	24" X 24"	22" X 22"	MATCH CEILING	1200	0.05	17	-	-	-	TITUS PAR	-
10	PERFORATED RETURN	24" X 12"	22"X 10"	MATCH CEILING	600	0.06	10	-	-	-	TITUS PAR	-
13	PERFORATED EXHAUST GRILLE	8" X 8"	6" X 6"	MATCH CEILING	120	0.12	10	-	-	-	TITUS 8F	-
14	PERFORATED EXHAUST GRILLE	10" X 10"	8" X 8"	MATCH CEILING	225	0.12	12	-	-	-	TITUS 8F	-
15	PERFORATED EXHAUST GRILLE	12" X 12"	10" X 10"	MATCH CEILING	360	0.12	14	-	-	-	TITUS 8F	-
16	PERFORATED EXHAUST GRILLE	14" x 14"	12" X 12"	MATCH CEILING	550	0.12	16	-	-	-	TITUS 8F	-
21	RADIAL BLADE DIFFUSER	12"ø	8"ø	SURFACE	210	0.14	29	8 (1)	-	-	AIR DIFFUSION PRODUCTS DNR	-
42	LINEAR-RETURN	24"L	22"L	MATCH CEILING	160	0.08	32	12	-	-	TEMPO L.D.	2 @ 1" SLOT
43	FLOWBAR DIFFUSER	1008" X 3" 1 @ 1" SLOT	11 @ 8"	SURFACE	2420	0.14	26	21	-	-	TITUS FL-10 HIGH THROW	PROVIDE 48" LONG SUPPLY PLENUMS AND 48" LONG RETURN PLENUMS WITH SOUND BOOT. CONCEALED FRAME.
44	FLOWBAR DIFFUSER	528" X 6" 1 @ 2.5" SLOT	6 @ 10"	SURFACE	1950	0.09	23	26	-	-	TITUS FL-25 HIGH THROW	PROVIDE 12 - 48" LONG SUPPLY PLENUMS WITH 8" INLET AND 12 - 48" LONG RETURN PLENUMS WITH 12" X 36" OUTLETS. CONCEALED FRAME.
45	FLOWBAR DIFFUSER	480" X 7" 1 @ 3" SLOT	5 @ 10"	SURFACE	2300	0.03	-	18	-	-	TITUS FL-30 JET THROW	PROVIDE 48" LONG SUPPLY PLENUMS AND 48" LONG RETURN PLENUMS WITH SOUND BOOT. CONCEALED FRAME.
46	FLOWBAR DIFFUSER	192" X 7" 10 @ 3" SLOT	4 @ 12"	SURFACE	1920	0.18	27	32	-	-	TITUS FL-30 HIGH THROW	PROVIDE 48" LONG SUPPLY PLENUMS WITH SOUND BOOT. CONCEALED FRAME.
47	FLOWBAR DIFFUSER	384" X 7" 1 @ 3" SLOT	8 @ 112"	MATCH CEILING	3840	0.18	27	32	-	-	TITUS FL-30 HIGH THROW	PROVIDE 48" LONG SUPPLY PLENUMS AND 48" LONG RETURN PLENUMS WITH SOUND BOOT. CONCEALED FRAME.
48	FLOWBAR DIFFUSER	576" X 6" 1 @ 2.5" SLOT	6 @ 10"	SURFACE	1950	0.09	23	26	-	-	TITUS FL-25 HIGH THROW	PROVIDE 12 - 48" LONG SUPPLY PLENUMS WITH 8" INLET AND 12 - 48" LONG RETURN PLENUMS WITH 12" X 36" OUTLETS. CONCEALED FRAME.
49	RETURN DIFFUSER	30" X 30"	28" X 28"	WALL	3564	0.1	24	38	-	-	TITUS 350ZR	-
50	FLOWBAR DIFFUSER	240" X 12" 1 @ 2.5" SLOT	5 @ 10"	SURFACE	800	0.01	-	7	-	-	TITUS FL-25 JET THROW	PROVIDE 48" LONG SUPPLY PLENUMS AND 48" LONG RETURN PLENUMS WITH SOUND BOOT. CONCEALED FRAME.
51	FLOWBAR DIFFUSER	96" X 5" 1 @ 2" SLOT	1 @ 8"	SURFACE	200	0.06	11	20	-	-	TITUS FL-10 HIGH THROW	PROVIDE 48" LONG SUPPLY PLENUMS AND 48" LONG RETURN PLENUMS WITH SOUND BOOT. CONCEALED FRAME.
52	FLOWBAR RETURN	48" X 3" 1 @ 1" SLOT	5 @ 10"	MATCH CEILING	220	0.136	26	12	-	-	TITUS FL-10	PROVIDE 48" LONG SUPPLY PLENUMS AND 48" LONG RETURN PLENUMS WITH SOUND BOOT. CONCEALED FRAME.
53	FLOWBAR RETURN	48" X 5" 1 @ 2" SLOT	13 @ 10"	MATCH CEILING	360	0.184	30	16	-	-	TITUS FL-20	PROVIDE 48" LONG SUPPLY PLENUMS AND 48" LONG RETURN PLENUMS WITH SOUND BOOT. CONCEALED FRAME.
54	FLOWBAR RETURN	48" X 7" 1 @ 3" SLOT	5 @ 10"	MATCH CEILING	480	0.177	27	18	-	-	TITUS FL-30	PROVIDE 48" LONG SUPPLY PLENUMS AND 48" LONG RETURN PLENUMS WITH SOUND BOOT. CONCEALED FRAME.
55	FLOWBAR RETURN	180" X 14" 2 @ 3" SLOT	-	SURFACE	9000	0.05	-	-	-	-	TITUS FL-30	PROVIDE 48" LONG SUPPLY PLENUMS AND 48" LONG RETURN PLENUMS WITH SOUND BOOT. CONCEALED FRAME.
56	FLOWBAR DIFFUSER	48" X 7" 1 @ 3" SLOT	12"	SURFACE	400	0.04	-	16	-	-	TITUS FL-30 JET THROW	PROVIDE 1 - 15' LONG RETURN PLENUMS. CONCEALED FRAME.
57	FLOWBAR DIFFUSER	288" X 12" 2 @ 2" SLOT	3 @ 12"	SURFACE	1560	0.10	22	33	-	-	TITUS FL-20 HIGH THROW	PROVIDE 48" LONG SUPPLY PLENUMS AND 48" LONG RETURN PLENUMS WITH SOUND BOOT. CONCEALED FRAME.
58	FLOWBAR DIFFUSER	336" X 7" 1 @ 1" SLOT	4 @ 8"	SURFACE	640	0.08	-	19	-	-	TITUS FL-10 HIGH THROW	PROVIDE 48" LONG SUPPLY PLENUMS AND 48" LONG RETURN PLENUMS WITH SOUND BOOT. CONCEALED FRAME.
59	FLOWBAR RETURN	180" X 7" 1 @ 1" SLOT	-	SURFACE	1500	0.05	-	-	-	-	TITUS FL-10	PROVIDE 1 - 15' LONG RETURN PLENUMS. CONCEALED FRAME.
60	FLOWBAR RETURN	240" X 3" 1 @ 1" SLOT	-	SURFACE	2000	0.05	-	-	-	-	TITUS FL-10	PROVIDE 1 - 15' LONG RETURN PLENUMS. CONCEALED FRAME.
61	FLOWBAR RETURN	96" X 3" 1 @ 1" SLOT	-	SURFACE	300	0.01	-	-	-	-	TITUS FL-10	PROVIDE 1 - 15' LONG RETURN PLENUMS. CONCEALED FRAME.
62	SIDEWALL RETURN	42" X 20"	40" X 18	SURFACE	3306	0.08	30	-	-	-	TITUS 350FL	-

(1) RECOMMENDED MINIMUM DISTANCE BETWEEN DIFFUSERS IN 9' CEILING.
(2) VERIFY FRAME TYPE OF ALL AIR DEVICES WITH ARCHITECTURAL REFLECTED CEILING PLAN BEFORE ORDERING.

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Division of Facilities Construction Management, Southern Utah University

DRAWN BY: ADW
CHECKED BY: JMB
OWNER PROJECT NO.:
GSBS PROJECT NO.: 2011-001.00
ISSUED DATE: 5/16/2012

MECHANICAL SCHEDULES

MH602

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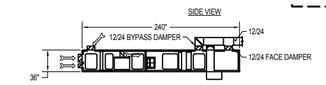
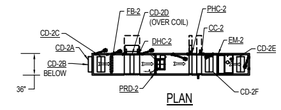
AIR HANDLER AH-2





PLAN

AIR HANDLER (AH)

PLAN CODE	CFM	OSA MIN. (CFM)	ESP (IN WC)	MAX. OVERALL DIMENSIONS		
				LENGTH (IN)	WIDTH (IN)	HEIGHT (IN)
AH-2	2,500	500	2	240	36	36

1. ALL ACCESS DOORS ARE 18" WIDE EXCEPT 24" FAN ACCESS DOORS
2. SOLID LINER UPSTREAM OF FANS AND DOWNSTREAM OF DIRECT EVAPORATIVE COIL, PERFORATED LINER ALL OTHER LOCATIONS, 2" PLENUM WALLS

EVAPORATIVE MEDIA (EM)

PLAN CODE	PERFORMANCE				MEDIA [1]		SUMP CONSTRUCTION
	AIR VOLUME (CFM)	SATURATION EFFICIENCY (%)	MAXIMUM ACTIVE MEDIA FACE VELOCITY (FPM)	MAXIMUM PRESSURE DROP (IN WC)	THICKNESS (IN)	CONSTRUCTION	
EM-2	2,500	90+	550	0.25	12	CELDEK	STAINLESS STEEL

1. REFERENCE DETAIL - MP502

PRESSURE RELIEF DOORS (PRD)

PLAN CODE	QUANT.	SERVICE	PRESSURE SETTING (IN WC)	SIZE (IN X IN)	MAKE & MODEL
PRD-2	1	SUPPLY	5	AS REQ.	RUSKIN PRD 18

SUPPLY FAN (SF)

PLAN CODE	FAN											MOTOR		
	TYPE	CONFIGURATION	CONSTRUCTION	FLOW (CFM)	TSP (IN WC)	MIN EFF (%)	LOAD (BHP)	EAT (F)	WHEEL SIZE (IN)	SPEED (RPM)	CLASS	HP	VOLTAGE/ PHASE	VOLUME CONTROL
SF-2	BI AF	PLENUM	ALUMINUM	2,500	4.0	60	2.5	55	12	-	-	3	460/3	NONE

COIL (C)

PLAN CODE	SERVICE	AIR SIDE					FLUID SIDE						CONFIGURATION		
		VOLUME (CFM)	MAX FACE VELOCITY (FPM)	EAT (DBT / WBT)	LAT (DBT/WBT)	MAX APD (IN WC)	FLUID	EFT (F)	LFT (F)	FLOW RATE (GPM)	MAXIMUM FPD (FT)	MIN. TUBE VELOCITY (FPS)	MIN. ROWS	FPI	NOMINAL COIL
HC-2	HEATING	2,500	495	54/-	90/-	0.15	FW	130	110	8	4	2	2	10	1 @ 27W X 27H 5 CIRCUITS WAFFLE FINS
CC-2	CHILLED	2,500	495	61.7/50	54.0/-	0.2	25% PG	46.1	50	9	7.5	2.4	3	10	1 @ 27W X 27H 5 CIRCUITS WAFFLE FINS
DHC-2	DEHUMIDIFICATION	1,250	410	76.1/59.2	40.0/39.9	0.45	25% PG	32.5	45.2	9	10.5	1.5	14	8	1 @ 27W X 18H 7 CIRCUITS FLAT FINS

FILTER BANK (FB)

PLAN CODE	MERV [1]	MAX. CLEAN PD (IN WC)	DESIGN PD (IN WC)	INDIVIDUAL FILTER DIMENSIONS			QUANTITY (EA)
				LENGTH (IN)	HEIGHT (IN)	DEPTH (IN)	
FB-2	13	0.30	0.50	24	24	4	AS REQ.

AIR HANDLER CONTROL DAMPER (AHD)

PLAN CODE	SCHEMATIC SHEET REFERENCE	SERVICE	BLADE ACTION	FLOW (CFM)	DIMENSIONS W X H (IN)	REMARKS
CD-2A	MH202	OUTSIDE	PARALLEL	2,000	24 X 12	DIRECT AIR TOWARD CD-1C
CD-2B	MH202	MIN. OSA	PARALLEL	500	8"	CONTROL TO MIN. OSA FLOW
CD-2C	MH202	RETURN	PARALLEL	2,500	24 X 12	DIRECT AIR TOWARD CD-1A
CD-2D	MH202	BYPASS	PARALLEL	2,500	30 X 9	CONTROL TO DEHUMIDIFICATION NEEDS
CD-2E	MH202	FACE	PARALLEL	2,500	24 X 12	CONTROL TO DEHUMIDIFICATION NEEDS
CD-2F	MH202	BYPASS	PARALLEL	2,500	24 X 12	CONTROL TO DEHUMIDIFICATION NEEDS

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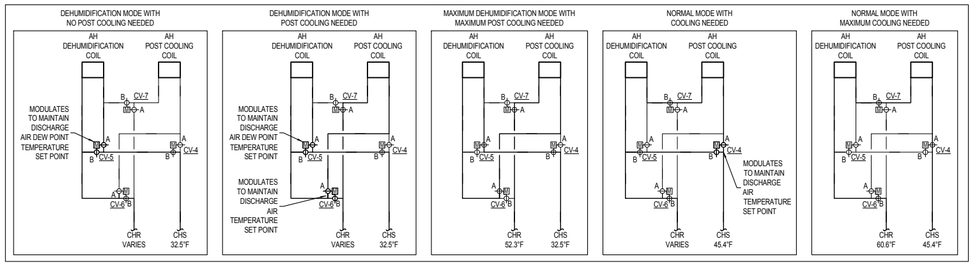
MECHANICAL SCHEDULES

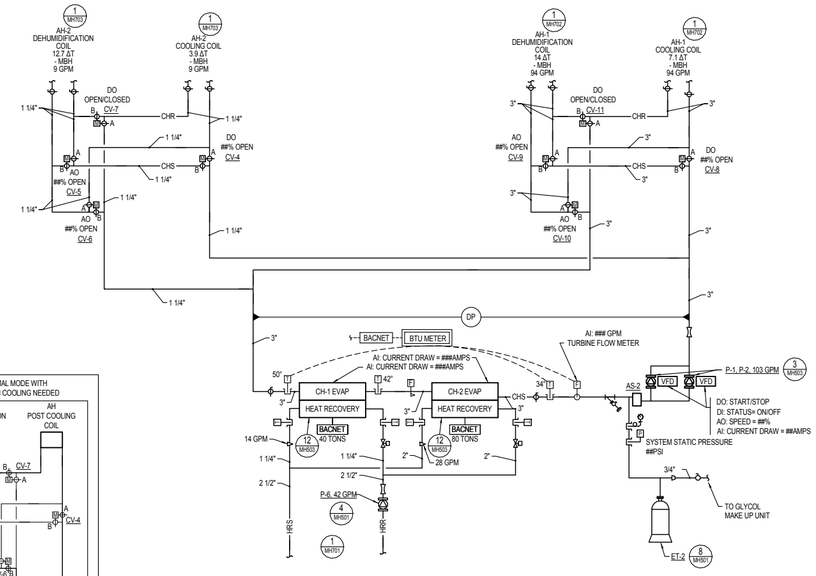
MH603

CONTROL VALVE (CV)							
PLAN CODE	SERVICE	TYPE	FLUID	FLUID TEMP (°F)	FLOW (GPM)	PRESSURE DROP RANGE (PSI)	REMARKS
CV-4	CHILLED WATER POST COOLING COIL CONTROL	MODULATING 3-WAY BALL VALVE	30%PG	32	9	2-4	FAIL-IN-PLACE -
CV-5	DEHUMIDIFICATION COIL CONTROL	MODULATING 3-WAY BALL VALVE	30%PG	32	9	2-4	FAIL-IN-PLACE -
CV-6	CHILLED WATER POST COOLING COIL CONTROL	MODULATING 3-WAY BALL VALVE	30%PG	32	9	2-4	FAIL-IN-PLACE -
CV-7	CHILLED WATER DIVERTING VALVE	2-POSITION 3-WAY BALL VALVE	30%PG	32	9	-	FAIL-IN-PLACE LINE SIZE
CV-8	CHILLED WATER POST COOLING COIL CONTROL	MODULATING 3-WAY BALL VALVE	30%PG	32	94	2-4	FAIL-IN-PLACE -
CV-9	DEHUMIDIFICATION COIL CONTROL	MODULATING 3-WAY BALL VALVE	30%PG	32	94	2-4	FAIL-IN-PLACE -
CV-10	CHILLED WATER POST COOLING COIL CONTROL	MODULATING 3-WAY BALL VALVE	30%PG	32	94	2-4	FAIL-IN-PLACE -
CV-11	CHILLED WATER DIVERTING VALVE	2-POSITION 3-WAY BALL VALVE	30%PG	32	94	-	FAIL-IN-PLACE LINE SIZE

CONTROL VALVE CONTROL

	MODE	
	DEHUMIDIFICATION	NORMAL COOLING
VALVE	FUNCTION	FUNCTION
CV-4A	CLOSED	MODULATE TO DAT SET POINT
CV-4B	OPEN	DAT SET POINT
CV-5A	MODULATE TO DEHUMIDIFY	CLOSED
CV-5B	MODULATE TO DEHUMIDIFY	OPEN
CV-6A	MODULATE TO DAT SET POINT	CLOSED
CV-6B	DAT SET POINT	OPEN
CV-7A	OPEN	CLOSED
CV-7B	CLOSED	OPEN
CV-8A	CLOSED	MODULATE TO DAT SET POINT
CV-8B	OPEN	CLOSED
CV-9A	MODULATE TO DEHUMIDIFY	CLOSED
CV-9B	MODULATE TO DEHUMIDIFY	OPEN
CV-10A	MODULATE TO DAT SET POINT	CLOSED
CV-10B	DAT SET POINT	OPEN
CV-11A	OPEN	CLOSED
CV-11B	CLOSED	OPEN

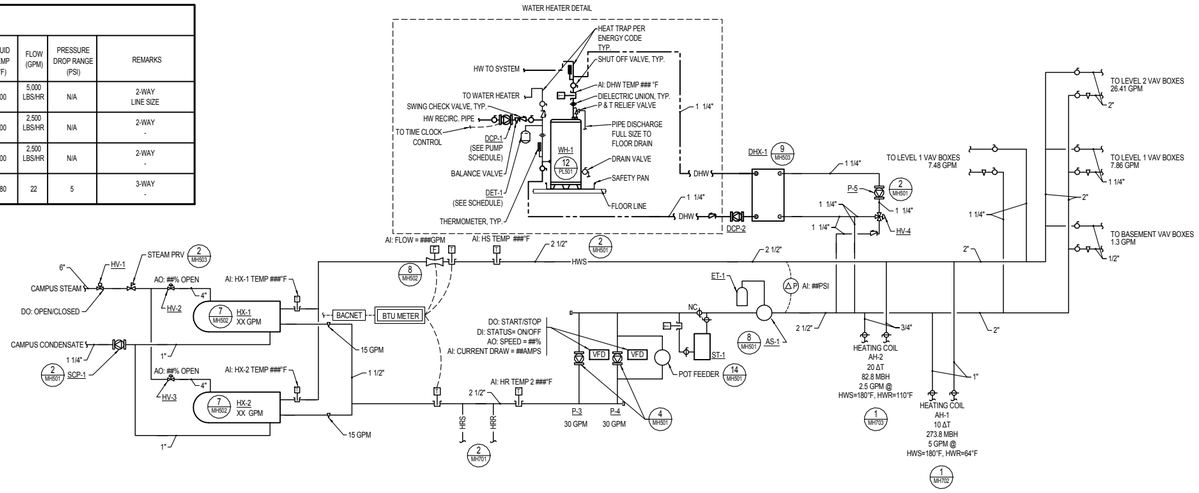




2 CHILLED WATER SCHEMATIC

SCALE: NONE

CONTROL VALVE (HV)							
PLAN CODE	SERVICE	TYPE	FLUID	FLUID TEMP (°F)	FLOW (GPM)	PRESSURE DROP RANGE (PSI)	REMARKS
HV-1	STEAM SUPPLY ISOLATION	2-POSITION	STEAM	300	5,000 LBS/HR	N/A	2-WAY LINE SIZE
HV-2	HX-1 HEATING WATER TEMPERATURE CONTROL	MODULATING VALVE	STEAM	300	2,500 LBS/HR	N/A	2-WAY -
HV-3	HX-2 HEATING WATER TEMPERATURE CONTROL	MODULATING VALVE	STEAM	300	2,500 LBS/HR	N/A	2-WAY -
HV-4	DOMESTIC HOT WATER TEMPERATURE CONTROL	MODULATING BALL VALVE	WATER	180	22	5	3-WAY -



1 HEATING WATER SYSTEM

SCALE: NONE

GRAPHICS LEGEND

SAMPLE FORMAT FOR GRAPHIC DISPLAY — SWP-1: SOLAR WATER PUMP #1; PUMP COMMAND = ON/OFF; PUMP STATUS = ON/OFF; PUMP FAN = ALARM/NORMAL

ON/OFF OR ALARM /NORMAL MEANS SHOW ONE OR THE OTHER

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SYMBOL MEANS ACTUAL DIGIT FORMAT THAT IS EXPECTED WITH UNITS SHOWN

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XXX MEANS FILL IN ACTUAL ROOM NUMBER ON GRAPHIC

TERMS:
ADJUSTABLE MEANS INITIALLY SET "SET-POINT" TO VALUE SHOWN. TEST AND BALANCE CONTRACTOR TO ADJUST AS NECESSARY AND SHOW ON AS-BUILT DRAWINGS.

HEATING WATER SYSTEM SEQUENCE OF OPERATION

STEAM EMERGENCY SHUT DOWN SEQUENCE

A. EMERGENCY SHUTDOWN SWITCH WITH MUSHROOM STYLE BUTTON LOCATED OUTSIDE OF EACH DOOR TO THE HEAT EXCHANGER ROOM. SHALL CLOSE THE BUILDING STEAM SUPPLY ISOLATION VALVE FOR THE SYSTEM ON MANUAL ACTIVATION OF THE GLASS BREAK SWITCH. THE SHUTDOWN SHALL ALSO BE ACTIVATED VIA SOFTWARE BUT SHALL NOT OVERRIDE THE LOCAL SHUTDOWN. ACTIVATION OF THE SWITCH SHALL GENERATE A BMS ALARM.

HEATING WATER BTU MEASURING SYSTEM

A. THE HEATING WATER BTU MEASURING SYSTEM SHALL MONITOR THE FLOW RATE OF THE BUILDING HEATING WATER SYSTEM AND SUPPLY AND RETURN TEMPERATURES. CALCULATE THE BTU'S BEING PROVIDED INTO THE BUILDING. AND PROVIDE THIS INFORMATION FOR BILLING, TRENDING, ARCHIVING, READING, AND RESETTING TO COLLEGE PLANT OPERATIONS, VIA THE CAMPUS NETWORK. ANALOG STEAM FLOW TO BE DISPLAYED ON THE GRAPHICS SCREEN AS AN OUTPUT FROM THE BTU MEASURING SYSTEM TO THE BAS.

STEAM EXCHANGER

A. THE HEAT EXCHANGER CONTROLLER SHALL BE ENABLED AND THE HEAT EXCHANGER PUMPS (P-3&4) SHALL BE STOPPED AND STARTED VIA THE AUTOMATION SYSTEM. A PUMP FLOW SWITCH INTERLOCK AND MANUAL TEMPERATURE RESET HIGH LIMIT (SET BY STEAM PLANT PERSONNEL, SET INITIALLY AT 205°F (ADJUSTABLE) LOCATED ON THE DISCHARGE LINE SHALL PREVENT OPERATION OF THE HEAT EXCHANGER STEAM VALVE (VALVE FORCED CLOSED) IF LACK OF FLOW ON THE SECONDARY SIDE OR A HIGH TEMPERATURE CONDITION IS SENSED. A SENSOR SENSING THE SUPPLY WATER TEMPERATURE FOR EACH EXCHANGER ACTING THROUGH THE BMS CONTROLLER, SHALL MODULATE THE STEAM CONTROL VALVE TO MAINTAIN THE SET POINT OF 180° (PROGRAMMABLE/ADJUSTABLE). STEAM VALVE SHALL HAVE AN ELECTRIC ACTUATOR. GENERATE AN ALARM IF HEATING SYSTEM IS ENABLED AND BUILDING HEATING WATER TEMPERATURE IS OUTSIDE OF THE FOLLOWING RANGE FOR MORE THAN 30 MINUTES: 140°F & 210°F (ADJUSTABLE). THE STEAM VALVES SHALL BE CLOSED IF NO BUILDING HEATING WATER PUMP IS OPERATING.

BUILDING HEATING WATER PUMPS

A. START THE BUILDING LEAD HOT WATER PUMP ANYTIME THERE IS A CALL FOR HEATING FROM ANY DEVICE IN THE BAS (I.E. VAV, FAN-COIL, AIR HANDLER, ETC.). DISABLE THE LEAD HEATING WATER PUMP IF THE OUTSIDE AIR TEMPERATURE IS ABOVE 70°F (ADJUSTABLE) AND NO DEVICE IS CALLING FOR HEAT. A CONTROL LOOP SENSING THE BUILDING HOT WATER DIFFERENTIAL PRESSURE SHALL MODULATE THE PUMPS VFD'S TO MAINTAIN THE SUPPLY TO RETURN WATER DIFFERENTIAL PRESSURE SET POINT OF 10 PSI (PROGRAMMABLE/ADJUSTABLE). ONE PUMP SHALL RUN CONTINUOUSLY. UPON FAILURE OF THE LEAD PUMP, THE LAG PUMP SHALL START. IF THE LEAD PUMP IS UNABLE TO MAINTAIN AT LEAST 90% OF THE DIFFERENTIAL PRESSURE SET POINT FOR OVER 30 MINUTES, THE LAG PUMP SHALL START AND OPERATE UNTIL THE VFDS FALL BELOW 15 HERTZ AT WHICH TIME THE LAG PUMP IS TO BE DISABLED. MONITOR THE CURRENT DRAW OF THE HEATING WATER PUMPS WITH AN ANALOG CURRENT TRANSDUCER. LEAD PUMP OPERATION TO BE ROTATED TO OPPOSITE PUMP MONTHLY ON THE FIRST MONDAY AT 9:00AM.

HEAT RECOVERY

A. WHEN TEMPERATURE LEAVING ST-1 IS LESS THAN 120°F AND THERE IS A CALL FOR HEAT IN THE BUILDING AND CH-1 IS RUNNING, START LEAD HEAT RECOVERY PUMP (P-6/P-7). RUN HEAT RECOVERY PUMP UNTIL CH-1 STOPS OR TEMPERATURE LEAVING ST-1 RISES ABOVE 130°F.

DOMESTIC HOT WATER

A. WHEN HEATING WATER SUPPLY TEMPERATURE IS ABOVE 160°F AND WH-1 TEMPERATURE IS LESS THAN 120°F, START P-5 AND DCP-2. OPERATE UNTIL WH-1 TEMPERATURE RISES ABOVE 130°F.

B. WHEN HEATING WATER SUPPLY TEMPERATURE IS LESS THAN 90°F AND WH-1 TEMPERATURE IS ABOVE 110°F START P-5 AND DCP-2. OPERATE UNTIL HEATING WATER SUPPLY TEMPERATURE RISES ABOVE 100°F.

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MECHANICAL SCHEMATICS

MH701

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1. AIR HANDLER IS A MEDIUM PRESSURE VAV SYSTEM WITH OUTSIDE AIR ECONOMIZER, VARIABLE SPEED SUPPLY FANS, OUTSIDE AIRFLOW MEASURING STATION, CHILLED WATER COOLING COILS, A PREHEAT COIL, AND A DIRECT EVAPORATIVE MEDIA SECTION.

2. THE AIR HANDLER SHALL OPERATE CONTINUOUSLY TO MAINTAIN THE REQUIRED MUSEUM INDOOR CONDITIONS. THE FOLLOWING HARD-WIRED SAFETY INTERLOCKS SHALL DISABLE THE AIR HANDLER: SMOKE DETECTORS IN SUPPLY AND RETURN AIR STREAMS, DUCT STATIC PRESSURE HIGH LIMIT SWITCH, FREEZE STAT, AND FIRE ALARM SYSTEM INTERLOCKS.

3. FAN SPEED OF SUPPLY FAN SHALL MODULATE TO MAINTAIN THE PROGRAMMED SET POINT AT THE DUCT STATIC PRESSURE SENSOR. THE SENSOR IS TO BE LOCATED AT THE TOP OF THE SUPPLY DUCT RISER. THE VAV BOX WITH THE MOST OPEN DAMPER SHALL RESET THE DUCT STATIC PRESSURE SET POINT FROM 0.5"WC TO 1.5"WC TO MAINTAIN THE VAV BOX WITH THE MOST OPEN DAMPER TO HAVE A DAMPER OPEN PERCENTAGE OF NO MORE THAN 95% (DUCT STATIC PRESSURE SET POINT LIMITS TO BE FIELD ADJUSTED BY TEST AND BALANCE CONTRACTOR) SO THAT THE MINIMUM STATIC PRESSURE IS USED TO MAINTAIN THE GREATEST DEMAND FOR COOLING AS PER IECC 2009 AND ASHRAE 90.1.

4. THE CONTROL SYSTEM SHALL CONTROL THE AIR HANDLER TO MAINTAIN DISCHARGE AIR TEMPERATURE SET POINT AS WELL AS DISCHARGE AIR DEW POINT TEMPERATURE SET POINT AS DETAILED BELOW.
THE MIXED AIR TEMPERATURE SET POINT SHALL BE RESET FROM 49°F TO 54°F BASED ON OUTSIDE AIR DROPPING FROM 55°F DOWN TO 40°F.

THE SYSTEM WILL BE SEQUENCED AS FOLLOWS:
a. MODULATE THE VARIOUS DAMPERS PER THE DIAGRAM TITLED "DAMPER CONTROL" BELOW.
CONTROL THE CONTROL VALVES AS SHOWN IN THE TABLE BELOW TITLED "CONTROL VALVE CONTROL".
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b. THE DIRECT EVAPORATIVE MEDIA SUMP PUMP SHALL RUN CONTINUOUSLY.
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STOP THE DIRECT EVAPORATIVE MEDIA PUMP WHEN THE AIR HANDLER SHUTS OFF FOR UNOCCUPIED MODE OR IF THE OSA DEW POINT TEMPERATURE IS ABOVE THE SPACE AIR RELATIVE HUMIDITY SET POINT'S DEW POINT TEMPERATURE.
c. THE DISCHARGE AIR TEMPERATURE SET POINT (AS MEASURED DOWNSTREAM OF THE AIR HANDLER) SHALL BE 3°F ABOVE THE MIXED AIR TEMPERATURE SET POINT.
d. DIRECT EVAPORATIVE COOLER SHUTDOWN
WILL RESULT IN AN EVAPORATIVE MEDIA SHUT DOWN CYCLE AS FOLLOWS:
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2) OPEN THE MOTORIZED BALL VALVE AT THE EVAPORATIVE COOLER SUMP DRAIN.
3) UPON EVAPORATIVE MEDIA PUMP SHUTDOWN, CONTINUE TO RUN THE SUPPLY FANS FOR 1 HOUR TO DRY OUT THE EVAPORATIVE MEDIA. MEDIA TO BE DRIED OUT FOR 1 HOUR DURING THE NIGHT EVERY 24 HOUR PERIOD.

DIRECT EVAPORATIVE COOLER START-UP FOR THE FIRST TIME DURING AN OCCUPIED PERIOD WILL PROCEED AS FOLLOWS:

1) VERIFY THAT DIRECT EVAPORATIVE COOLER SUMP DRAIN MOTORIZED BALL VALVE IS FULLY CLOSED.
2) OPEN THE MOTORIZED VALVE LEADING TO THE DIRECT EVAPORATIVE COOLER MAKE-UP WATER FLOAT VALVE.
3) ENABLE THE DIRECT EVAPORATIVE COOLER RECIRCULATION PUMP.

5. THE CONTROL SYSTEM SHALL MONITOR THE PRESSURE DROP ACROSS THE FILTER BANK IN THE AIR HANDLER. THE INSTANTANEOUS PRESSURE DROP SHALL BE INDICATED ON THE CONTROL SYSTEM GRAPHICAL INTERFACE AS ACTUAL PRESSURE DROP IN INCHES OF WATER COLUMN. GENERATE AN ALARM CALLING FOR FILTERS TO BE CHANGED ONCE THE PRESSURE DROP MEASURED ACROSS THE FILTERS EXCEEDS 0.8" W.C. (ADJUSTABLE).

6. MODULATE THE PREHEAT COIL VALVE CV-3 TO MAINTAIN A PREHEAT COIL DISCHARGE AIR TEMPERATURE THAT IS 2°F BELOW THE MIXED AIR TEMPERATURE SET POINT.

7. ENABLE THE CHILLER AND LEAD CHILLED WATER PUMP IF ANY CHILLED WATER COIL VALVE IS MORE THAN 10% OPEN. DISABLE THE CHILLER AND PUMPS IF ALL CHILLED WATER COIL VALVES ARE LESS THAN 5% OPEN. CHILLER FLOW SWITCHES TO BE HARDWIRED TO STOP CHILLER OPERATION UPON LOSS OF FLOW.

8. MODULATE THE RELIEF DAMPERS TO MAINTAIN A BUILDING STATIC PRESSURE SET POINT OF 0.02"WC. ENABLE THE RELIEF FAN(S) IF THE SUPPLY FAN(S) ARE ENABLED AND THE BUILDING STATIC PRESSURE RISES ABOVE 0.05"WC. DISABLE THE RELIEF FAN(S) IF THE SUPPLY FAN(S) ARE DISABLED OR IF THE BUILDING STATIC PRESSURE FALLS BELOW 0.02WC. MODULATE THE SPEED OF THE RELIEF FAN(S) IN UNISON TO MAINTAIN A BUILDING STATIC PRESSURE SET POINT OF 0.035"WC. ALL SET POINTS TO BE ADJUSTABLE.

9. DURING OCCUPIED MODE, THE CONTROL SYSTEM SHALL MONITOR THE OUTSIDE AIR FLOW RATE ACROSS THE MINIMUM AIRFLOW MEASURING STATION. DIVISION 230900 CONTRACTOR IS TO MONITOR THE SIGNAL FROM MEASURING STATION AND CONVERT THIS READING TO AN EQUIVALENT CFM FLOW RATE. MODULATE OSA DAMPER POSITION TO MAINTAIN MINIMUM OUTSIDE AIR FLOW RATE SET POINT.
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10. MONITOR OPERATION OF VARIABLE SPEED FANS AND PUMPS WITH ANALOG CURRENT MEASURING TRANSDUCERS. MONITOR SINGLE SPEED FANS AND PUMPS WITH CURRENT SWITCHES. GENERATE A UNIQUE ALARM ON THE OPERATOR'S WORK STATION AND EMAIL (OR PAGER NOTIFICATION) WHENEVER ANY EQUIPMENT FAILURE IS DETECTED.

11. CALCULATE THE CORRESPONDING ZONE DEW POINT TEMPERATURE SET POINT FROM THE ZONE TEMPERATURE SET POINT AND ZONE RELATIVE HUMIDITY SET POINT. CALCULATE THE CORRESPONDING ZONE DEW POINT TEMPERATURE FROM THE ZONE TEMPERATURE AND ZONE RELATIVE HUMIDITY. USE A PID LOOP TO CONTROL TO ZONE DEW POINT SET POINT. USE THE RESULT FROM THE ZONE DEW POINT PID LOOP TO RESET THE SET POINT FOR THE AIR HANDLER DEW POINT TEMPERATURE SET POINT. RESET THE AIR HANDLER DEW POINT SET POINT FROM 57°F DOWN TO 42.5°F AS THE ZONE DEW POINT TEMPERATURE PID LOOP GOES FROM 0 TO 100%.

CONTROL VALVE (CV)

PLAN CODE	SERVICE	TYPE	FLUID	FLUID TEMP (°F)	FLOW (GPM)	PRESSURE DROP RANGE (PSI)	REMARKS
CV-1	EVAPORATIVE MEDIA SUMP FILL LOCKOUT VALVE	2-POSITION 2-WAY BALL VALVE	WATER (OPEN SYSTEM)	60	7.5	NONE	1/2" FULL PORT SPRING CLOSE
CV-2	EVAPORATIVE MEDIA SUMP DRAIN VALVE	2-POSITION 2-WAY BALL VALVE	WATER (OPEN SYSTEM)	60	-	NONE	1 1/2" FULL PORT SPRING OPEN
CV-3	PREHEAT COIL TEMPERATURE CONTROL	MODULATING 2-WAY BALL VALVE	30%PG	180	5	3-5	. .

GRAPHICS LEGEND

SAMPLE FORMAT FOR GRAPHIC DISPLAY
SWP-1
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EACH FILTER DIFFERENTIAL PRESSURE (DP) TO DISPLAY THE FOLLOWING ON THE GRAPHICS

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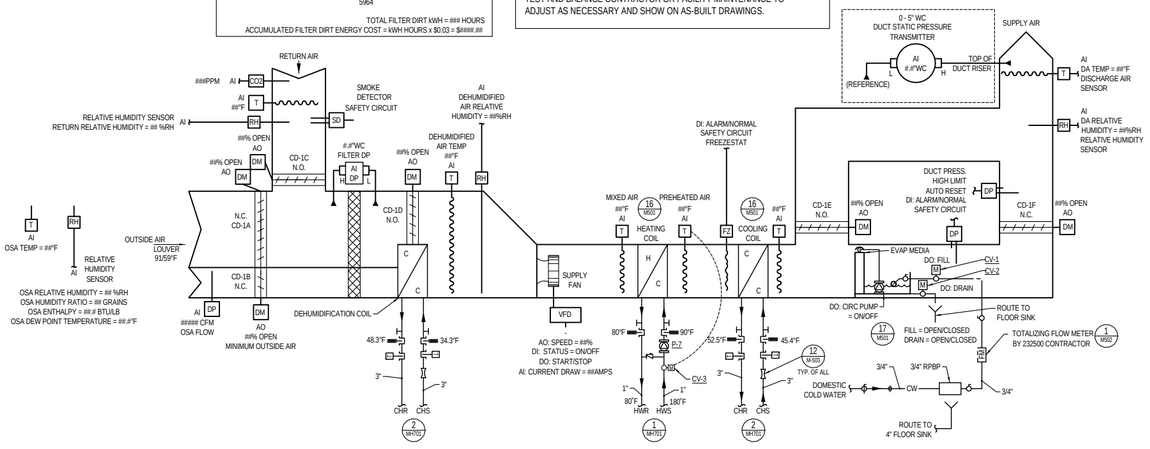
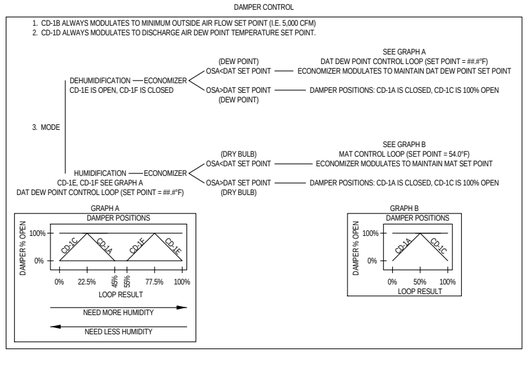
TOTAL FILTER DIRT kWH = ### HOURS
ACCUMULATED FILTER DIRT ENERGY COST = kWH HOURS x $0.03 = $####.##



KEYED NOTES

1. .



1 AHU-1
DDC CONTROL DIAGRAM
NO SCALE

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CONTROL VALVE (V)

PLAN CODE	SERVICE	TYPE	FLUID	FLUID TEMP (°F)	FLOW (GPM)	PRESSURE DROP RANGE (PSI)	REMARKS
CV-12	EVAPORATIVE MEDIA SUMP FILL LOCKOUT VALVE	2-POSITION 2-WAY BALL VALVE	WATER (OPEN SYSTEM)	60	.75	NONE	3/8" FULL PORT SPRING CLOSE
CV-13	EVAPORATIVE MEDIA SUMP DRAIN VALVE	2-POSITION 2-WAY BALL VALVE	WATER (OPEN SYSTEM)	60	-	NONE	1" SUMP DRAIN HOLE
CV-14	PREHEAT COIL TEMPERATURE CONTROL	MODULATING 2-WAY BALL VALVE	30%PG	180	2.5	3-5	- -

GRAPHICS LEGEND

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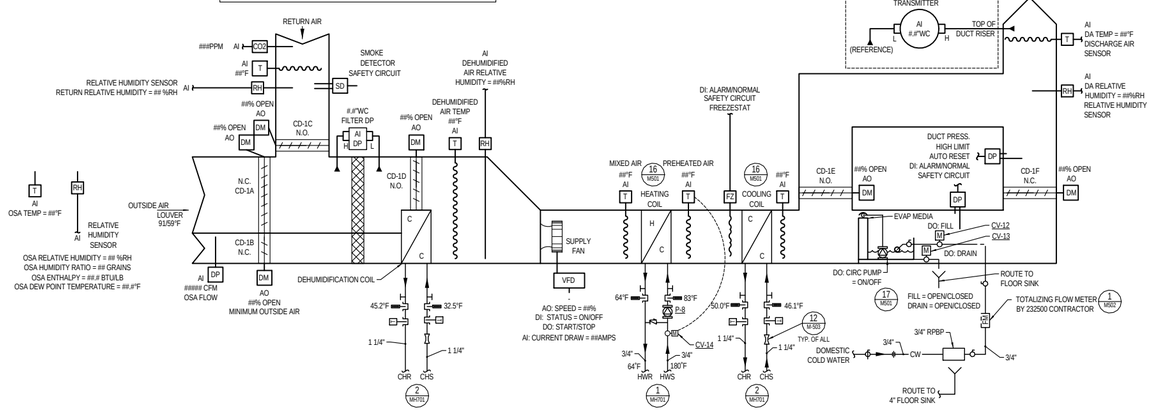
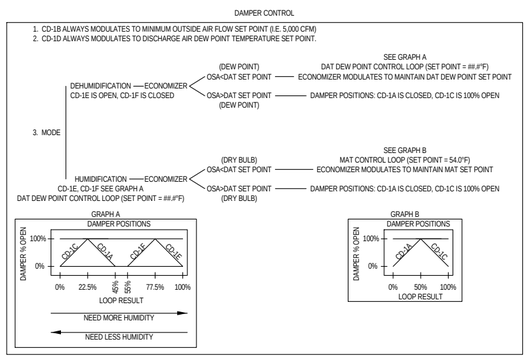
FILTER DIRT ENERGY (kW) = DIRT DP x AIRFLOW (VAV TOTAL) / 5964

TOTAL FILTER DIRT kWH = ### HOURS

ACCUMULATED FILTER DIRT ENERGY COST = kWH HOURS x $0.03 = $####.##





1 AHU-2
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KEYED NOTES

1. -

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MECHANICAL SCHEMATICS

MH703

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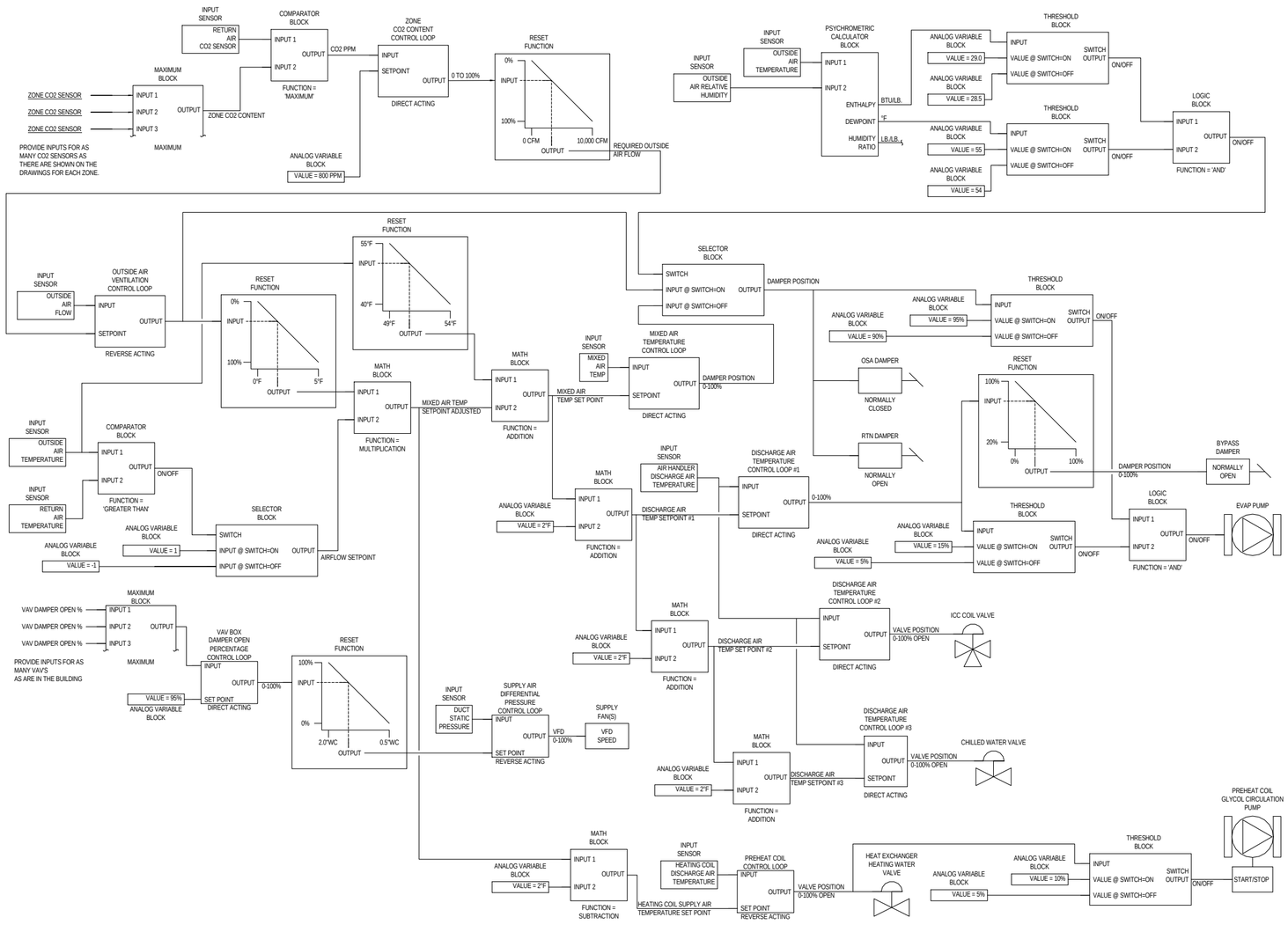

1 AHU-1
DDC CONTROL DIAGRAM
NO SCALE

SOUTHERN UTAH MUSEUM OF ART

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Division of Facilities Construction Management, Southern Utah University

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MECHANICAL SCHEMATICS

MH704

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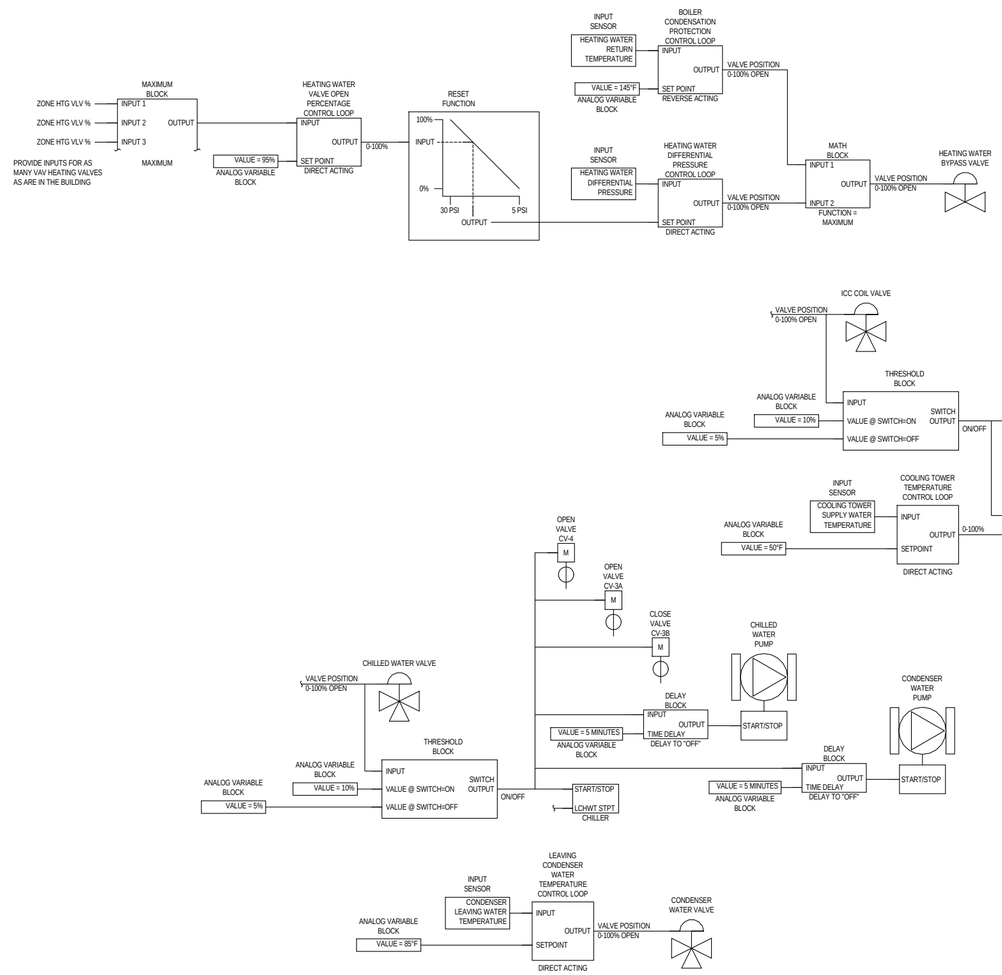

1 COOLING SYSTEM & HEATING SYSTEM DDC CONTROL DIAGRAM

NO SCALE

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MECHANICAL SCHEMATICS

MH705

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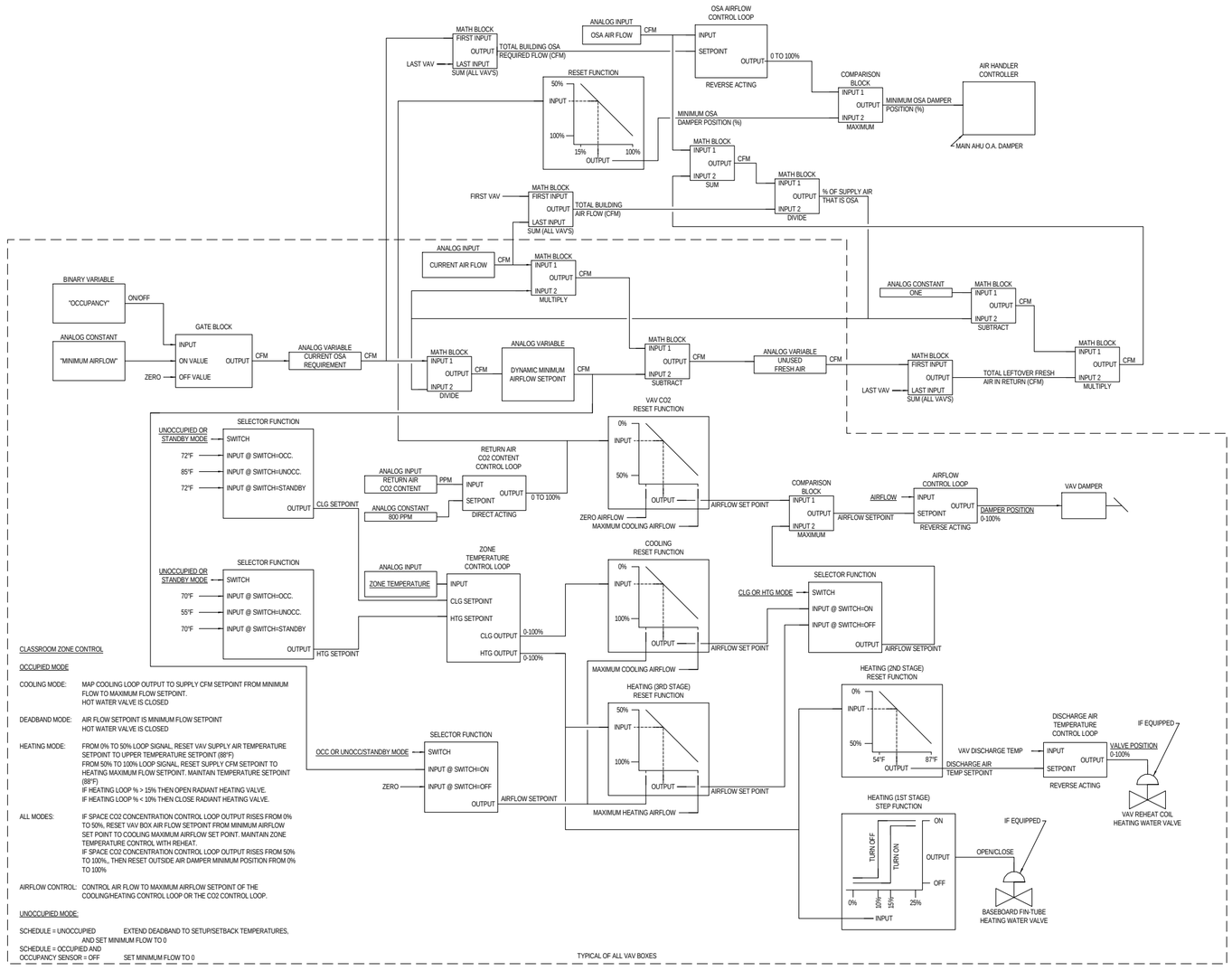

CLASSROOM ZONE CONTROL

OCCUPIED MODE

COOLING MODE: MAP COOLING LOOP OUTPUT TO SUPPLY CFM SETPOINT FROM MINIMUM FLOW TO MAXIMUM FLOW SETPOINT. HOT WATER VALVE IS CLOSED

DEADBAND MODE: AIR FLOW SETPOINT IS MINIMUM FLOW SETPOINT HOT WATER VALVE IS CLOSED

HEATING MODE: FROM 0% TO 50% LOOP SIGNAL, RESET VAV SUPPLY AIR TEMPERATURE SETPOINT TO UPPER TEMPERATURE SETPOINT (88°F) FROM 50% TO 100% LOOP SIGNAL, RESET SUPPLY CFM SETPOINT TO HEATING MAXIMUM FLOW SETPOINT. MAINTAIN TEMPERATURE SETPOINT (88°F)
IF HEATING LOOP % > 15% THEN OPEN RADIANT HEATING VALVE.
IF HEATING LOOP % < 10% THEN CLOSE RADIANT HEATING VALVE.

ALL MODES: IF SPACE CO2 CONCENTRATION CONTROL LOOP OUTPUT RISES FROM 0% TO 50%, RESET VAV BOX AIR FLOW SETPOINT FROM MINIMUM AIRFLOW SET POINT TO COOLING MAXIMUM AIRFLOW SET POINT. MAINTAIN ZONE TEMPERATURE CONTROL WITH REHEAT.
IF SPACE CO2 CONCENTRATION CONTROL LOOP OUTPUT RISES FROM 50% TO 100%, THEN RESET OUTSIDE AIR DAMPER MINIMUM POSITION FROM 0% TO 100%

AIRFLOW CONTROL: CONTROL AIR FLOW TO MAXIMUM AIRFLOW SETPOINT OF THE COOLING/HEATING CONTROL LOOP OR THE CO2 CONTROL LOOP.

UNOCCUPIED MODE:

SCHEDULE = UNOCCUPIED EXTEND DEADBAND TO SETUP/SETBACK TEMPERATURES, AND SET MINIMUM FLOW TO 0

SCHEDULE = OCCUPIED AND OCCUPANCY SENSOR = OFF SET MINIMUM FLOW TO 0

1 ZONE CONTROL SCHEMATIC
SCALE: NONE

MH706
SCALE: 1/8" = 1'-0"

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MECHANICAL SCHEMATICS

MH706

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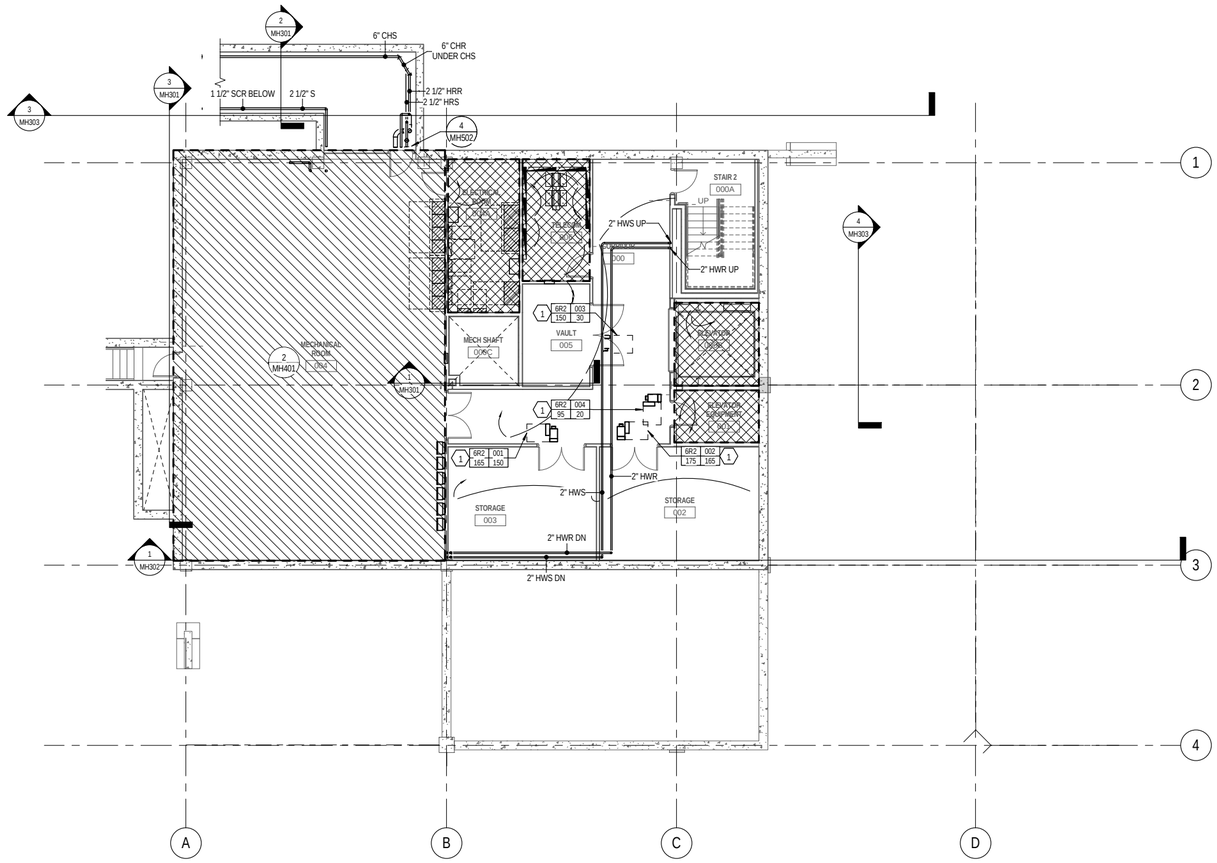
KEYED NOTES

1 ROUTE 1/2" HEATING WATER SUPPLY AND RETURN PIPING TO VAV. SEE VAV REHEAT BOX SCHEDULE ON MH601 AND DETAIL 6/MH501 FOR FURTHER REQUIREMENTS.

GENERAL NOTES

A. PIPING GENERAL NOTES
B.
C.



1 BASEMENT LEVEL PIPING PLAN
SCALE: 1/8" = 1'-0"

6' 0' 4' 8' 12' 16'

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BASEMENT LEVEL PIPING PLAN

MP100

KEYED NOTES

1. ROUTE 3/4" HEATING WATER SUPPLY AND RETURN PIPING TO VAV. SEE VAV REHEAT BOX SCHEDULE ON MH601 AND DETAIL 6/MH501 FOR FURTHER REQUIREMENTS.
2. ROUTE 1/2" HEATING WATER SUPPLY AND RETURN PIPING TO VAV. SEE VAV REHEAT BOX SCHEDULE ON MH601 AND DETAIL 6/MH501 FOR FURTHER REQUIREMENTS.
3. ROUTE 1" HEATING WATER SUPPLY AND RETURN PIPING TO VAV. SEE VAV REHEAT BOX SCHEDULE ON MH601 AND DETAIL 6/MH501 FOR FURTHER REQUIREMENTS.
4. ROUTE 1/2" HEATING WATER SUPPLY AND RETURN PIPING TO UNIT HEATER.

GENERAL NOTES

A. PIPING GENERAL NOTES
B.
C.

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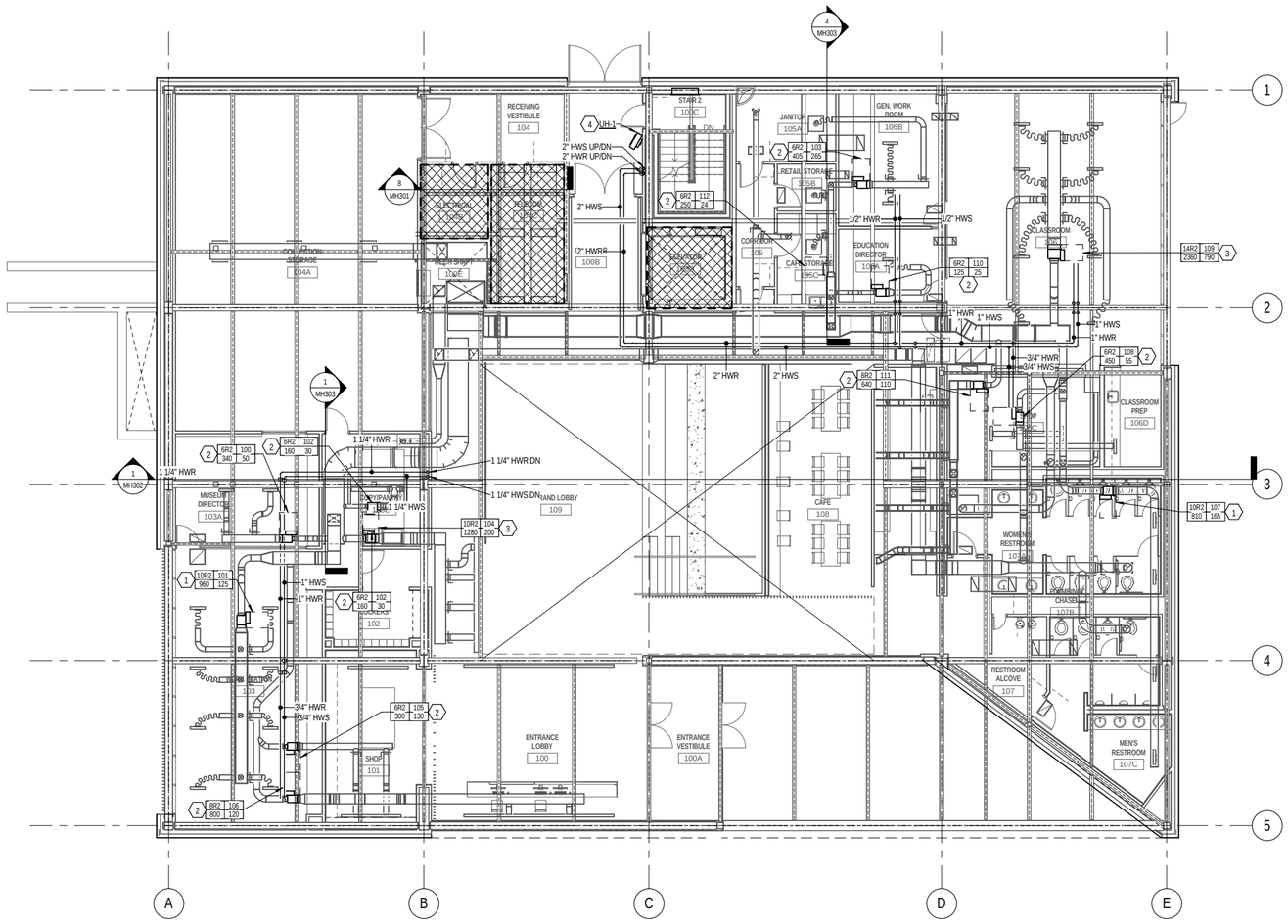

1 LEVEL 1 PIPING PLAN
SCALE: 1/8" = 1'-0"

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LEVEL 1 PIPING PLAN

MP101

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KEYED NOTES

GENERAL NOTES

A. PIPING GENERAL NOTES
B.
C.

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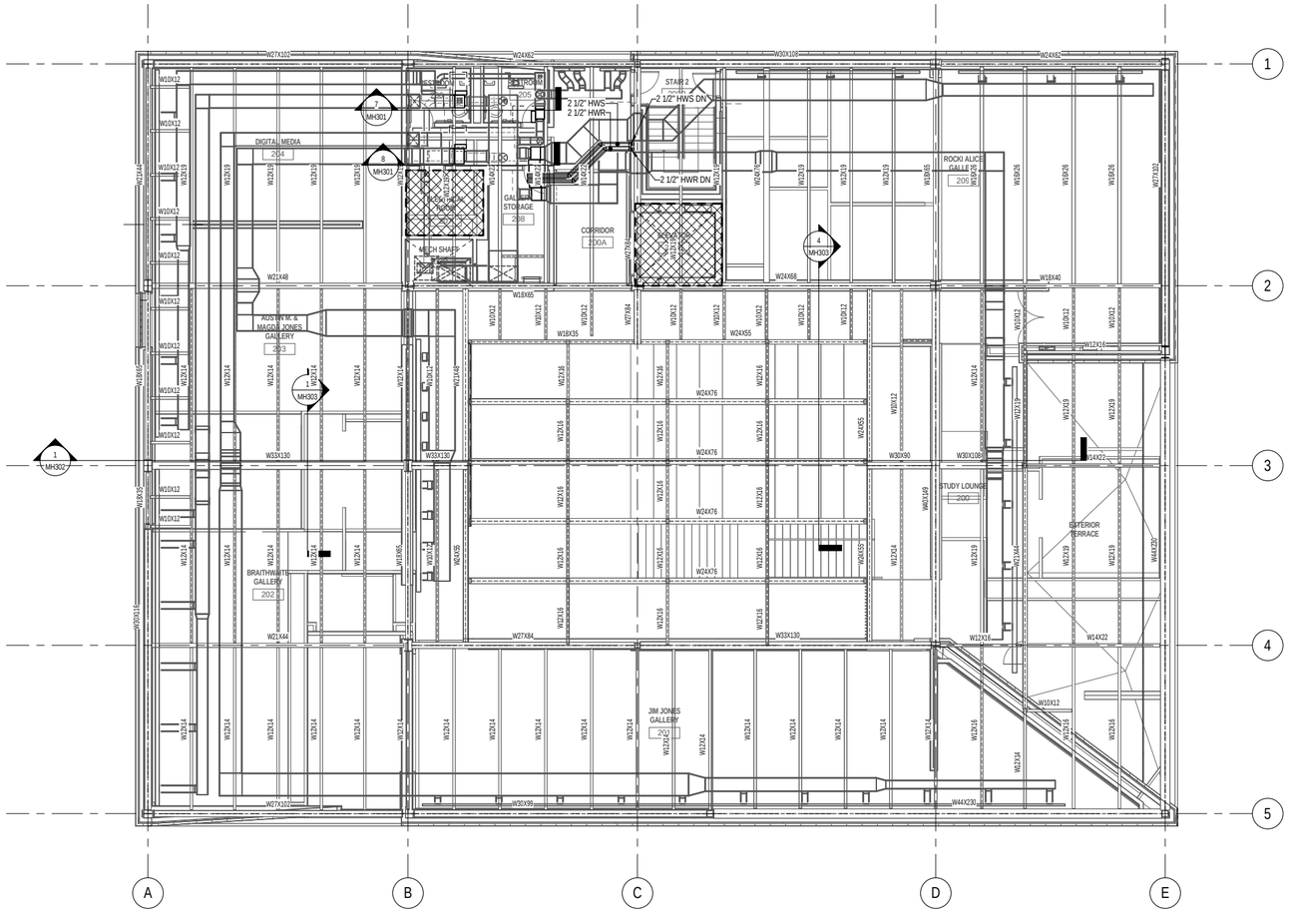

1 LEVEL 2 PIPING PLAN
SCALE: 1/8" = 1'-0"

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LEVEL 2 PIPING PLAN

MP102

GENERAL NOTES

A. SLOPE WATE PIPING 2 1/2" AND SMALLER 1/4" PER FOOT. SLOPE WASTE PIPING 3" AND LARGER 1/8" PER FOOT.
B. OVERFLOW AND ROOF DRAIN PIPING TO BE SLOPED AT 1/8" PER FOOT.
C.

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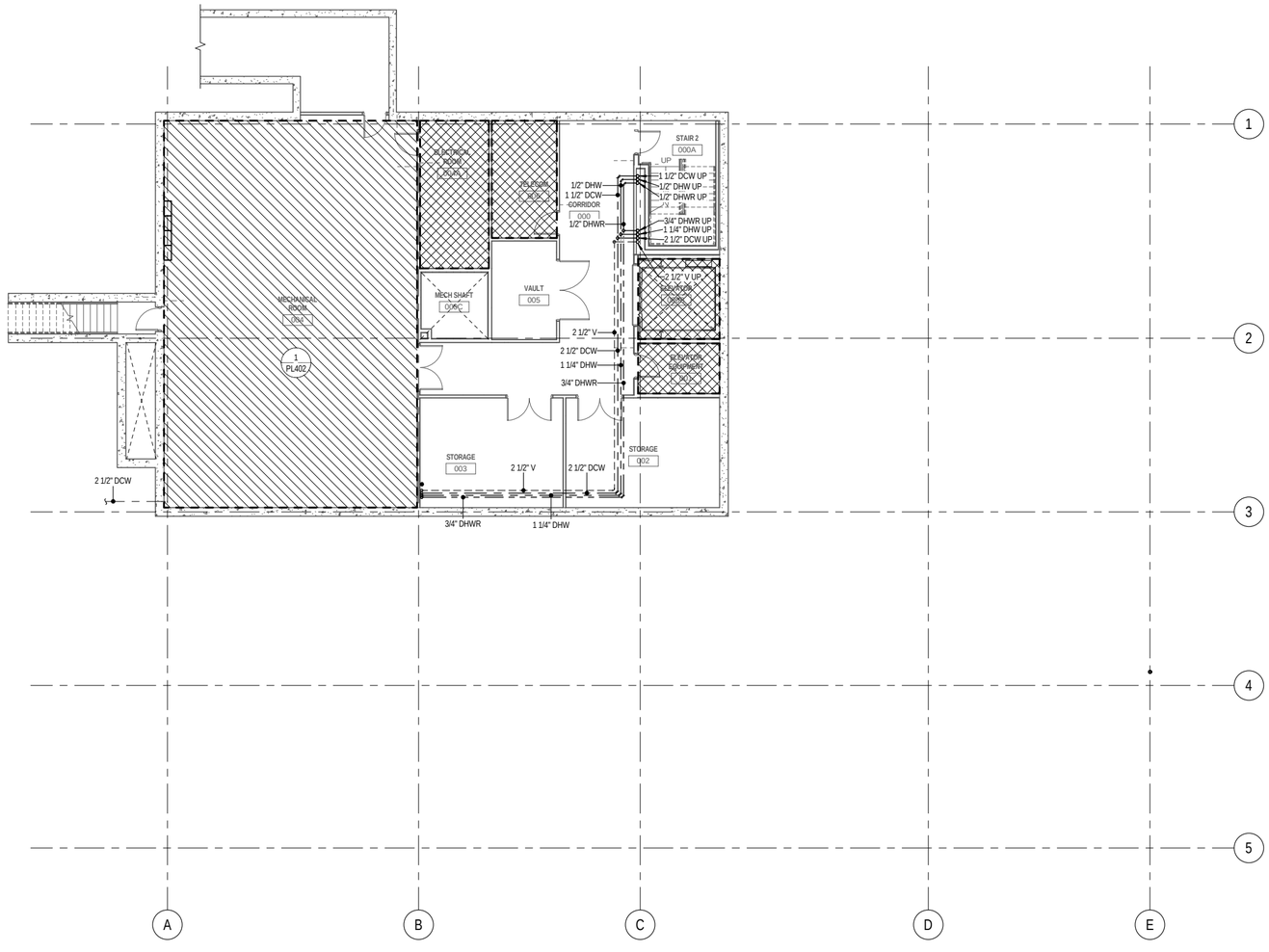

1 BASEMENT LEVEL PLUMBING PLAN
SCALE: 1/8" = 1'-0"

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BASEMENT LEVEL PLUMBING PLAN

PL100

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GENERAL NOTES

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B. OVERFLOW AND ROOF DRAIN PIPING TO BE SLOPED AT 1/8" PER FOOT.
C.

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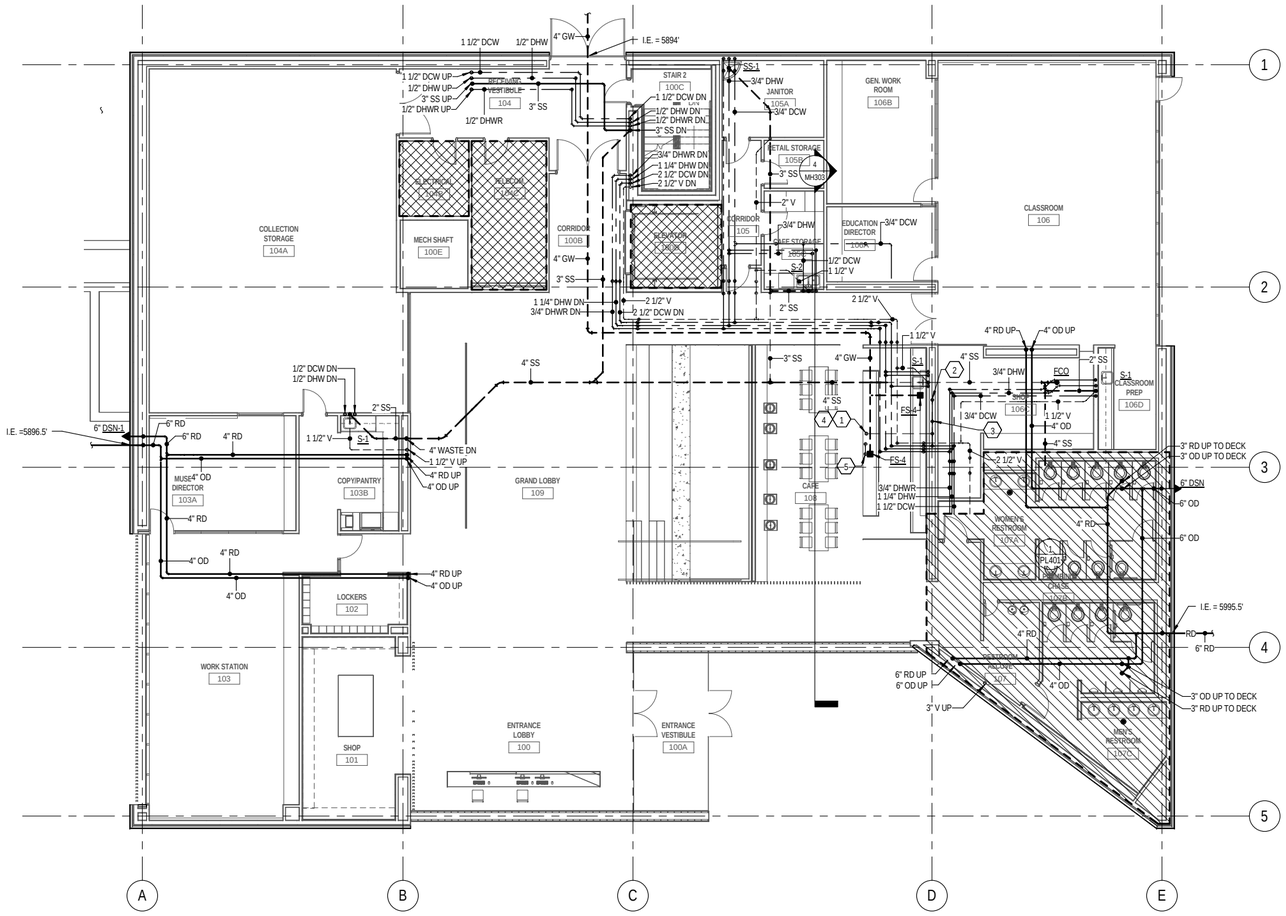

1 LEVEL 1 PLUMBING PLAN
SCALE: 1/8" = 1'-0"

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LEVEL 1 PLUMBING PLAN

PL101

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GENERAL NOTES

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B. OVERFLOW AND ROOF DRAIN PIPING TO BE SLOPED AT 1/8" PER FOOT.
C.

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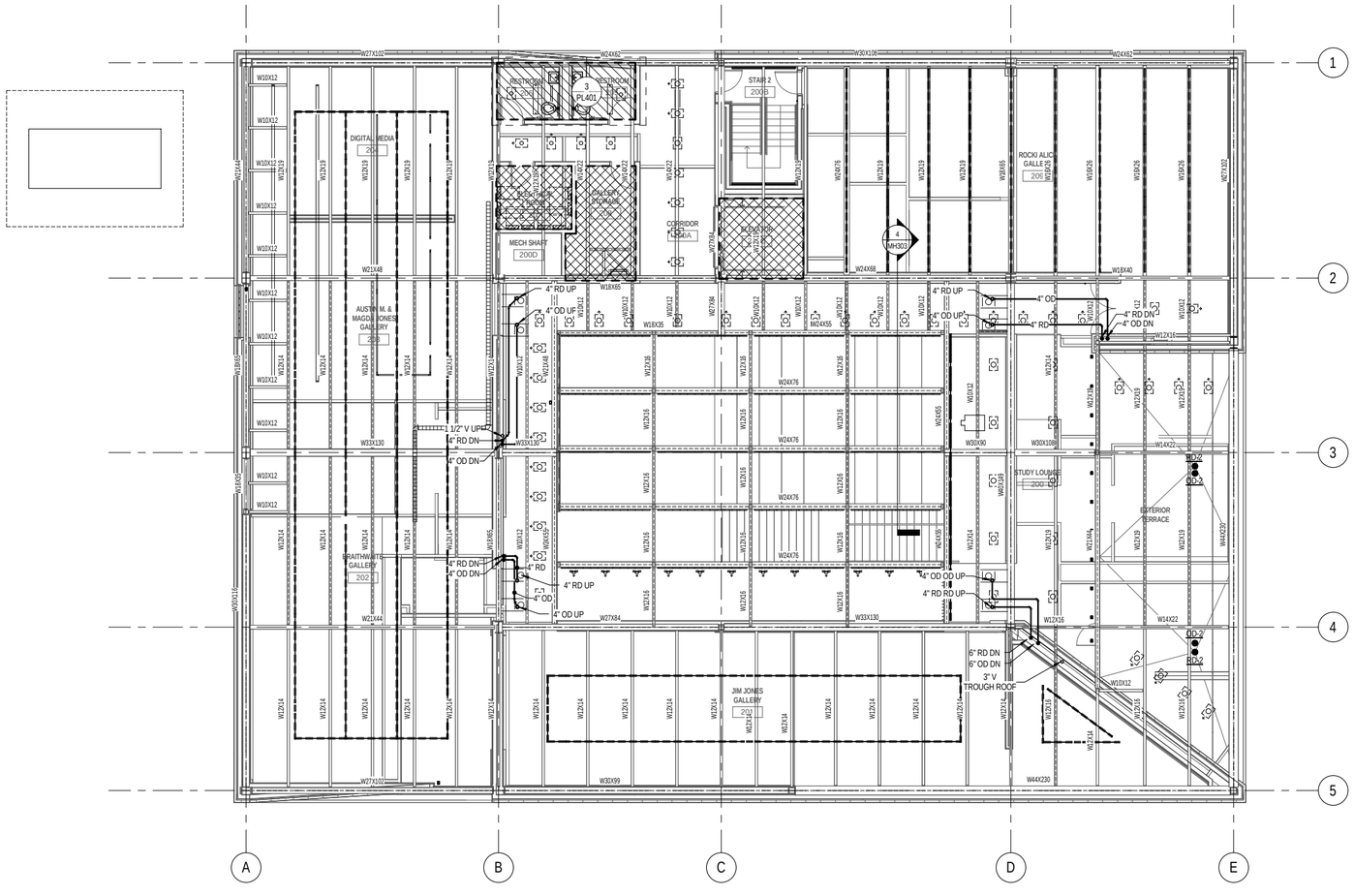

1 LEVEL 2 PLUMBING PLAN
SCALE: 1/8" = 1'-0"

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LEVEL 2 PLUMBING PLAN

PL102

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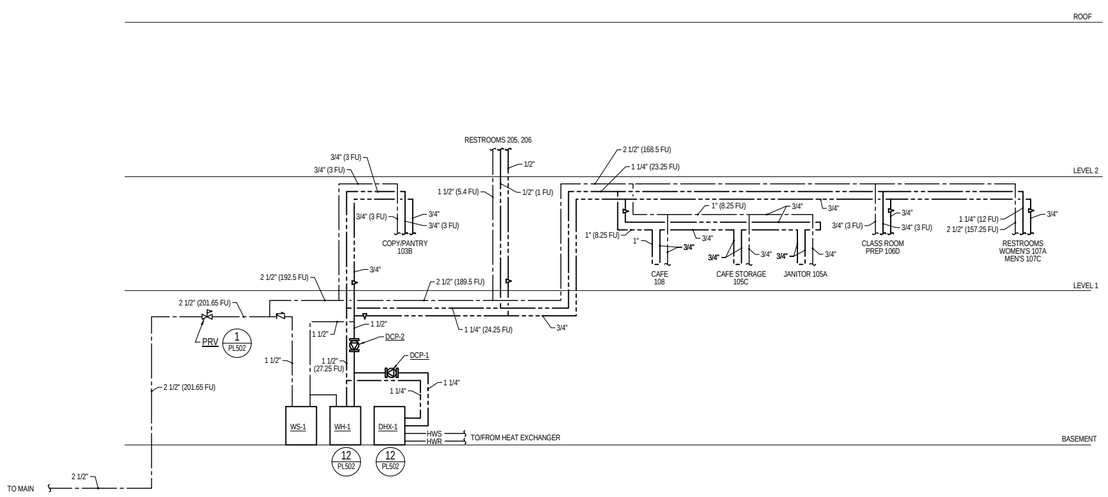

1 DOMESTIC WATER SCHEMATIC
SCALE: NONE

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SCHEMATICS

PL201

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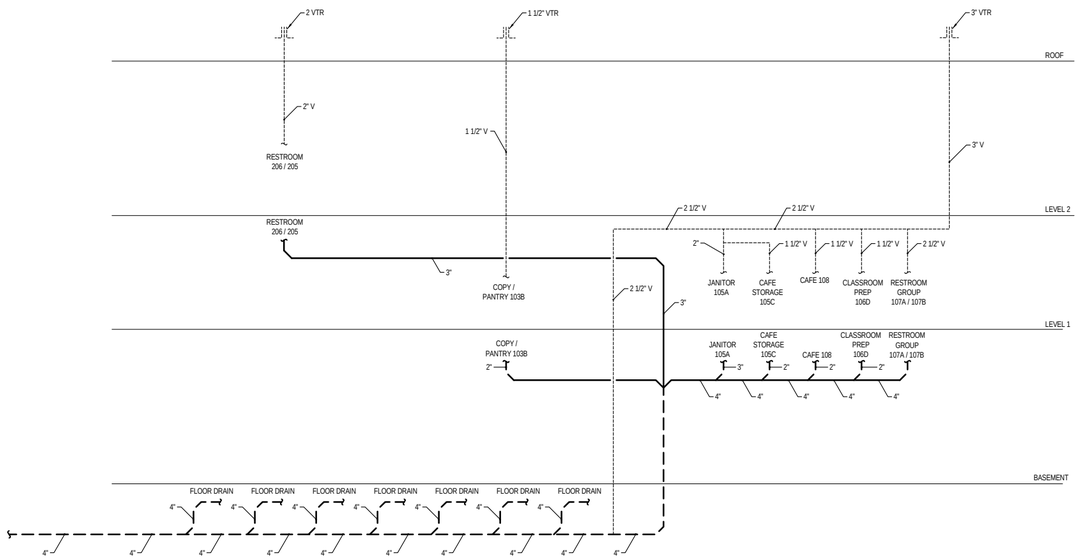

1 SANITARY AND VENT SCHEMATIC
SCALE: NONE

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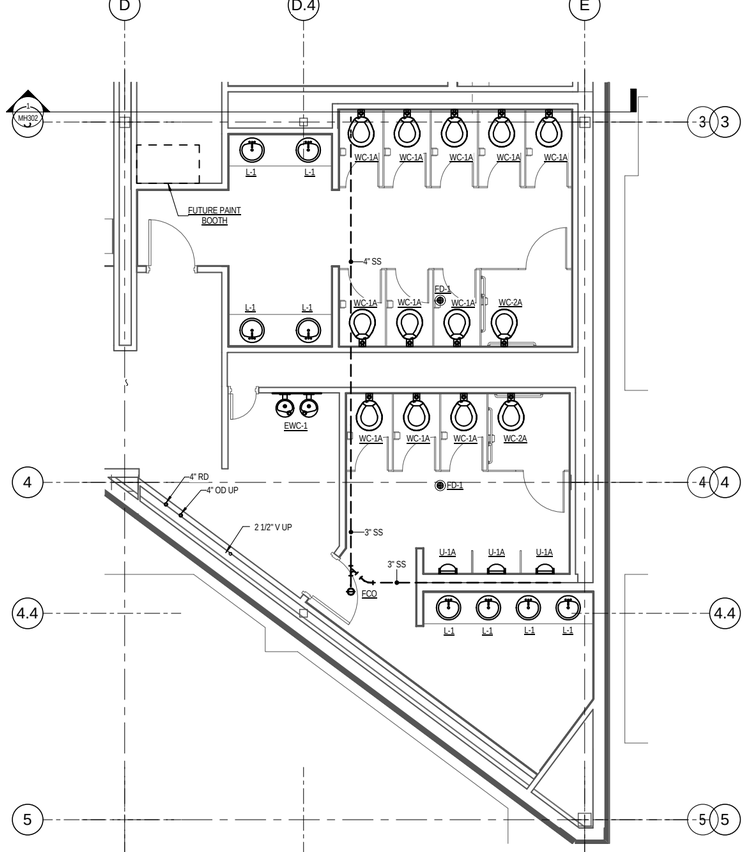
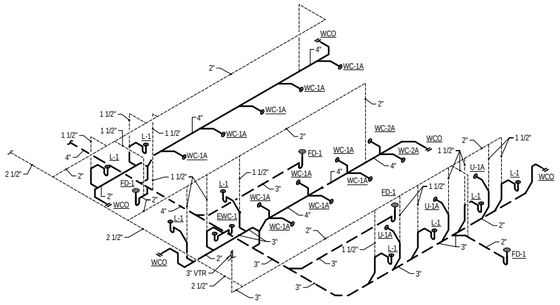
SANITARY AND VENT SCHEMATIC

PL202



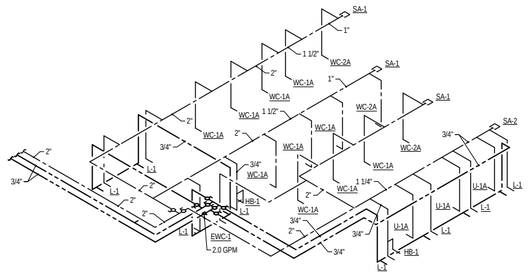
1 ENLARGED EAST RESTROOOM - LEVEL 1

SCALE: 1/4" = 1'-0"



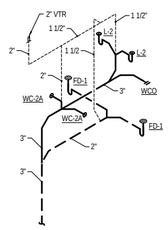
2 ENLARGED EAST RESTROOM - LEVEL 1- SANITARY WASTE AND VENT SCHEMATIC

SCALE: NONE



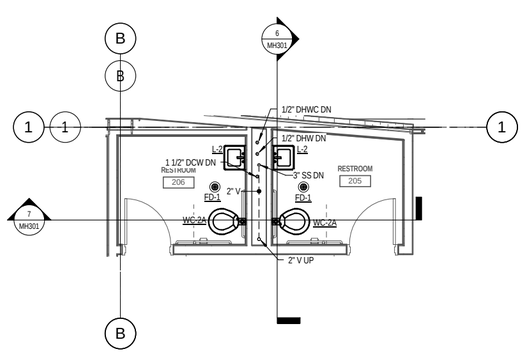
4 ENLARGED EAST RESTROOM - LEVEL 1- DOMESTIC HOT AND COLD WATER SCHEMATIC

SCALE: NONE



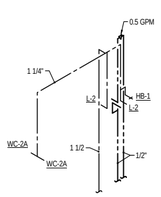
5 ENLARGED RESTROOM - LEVEL 2 - SANITARY WASTE AND VENT SCHEMATIC

SCALE: NONE



3 ENLARGED RESTROOM - LEVEL 2

SCALE: 1/4" = 1'-0"



6 ENLARGED RESTROOM - LEVEL 2 - SANITARY WASTE AND VENT SCHEMATIC

SCALE: NONE

GENERAL NOTES

A. SLOPE WATE PIPING 2 1/2" AND SMALLER 1/4" PER FOOT. SLOPE WASTE PIPING 3" AND LARGER 1/8" PER FOOT.

B. OVERFLOW AND ROOF DRAIN PIPING TO BE SLOPED AT 1/8" PER FOOT.

C.

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ENLARGED PLUMBING

PL401

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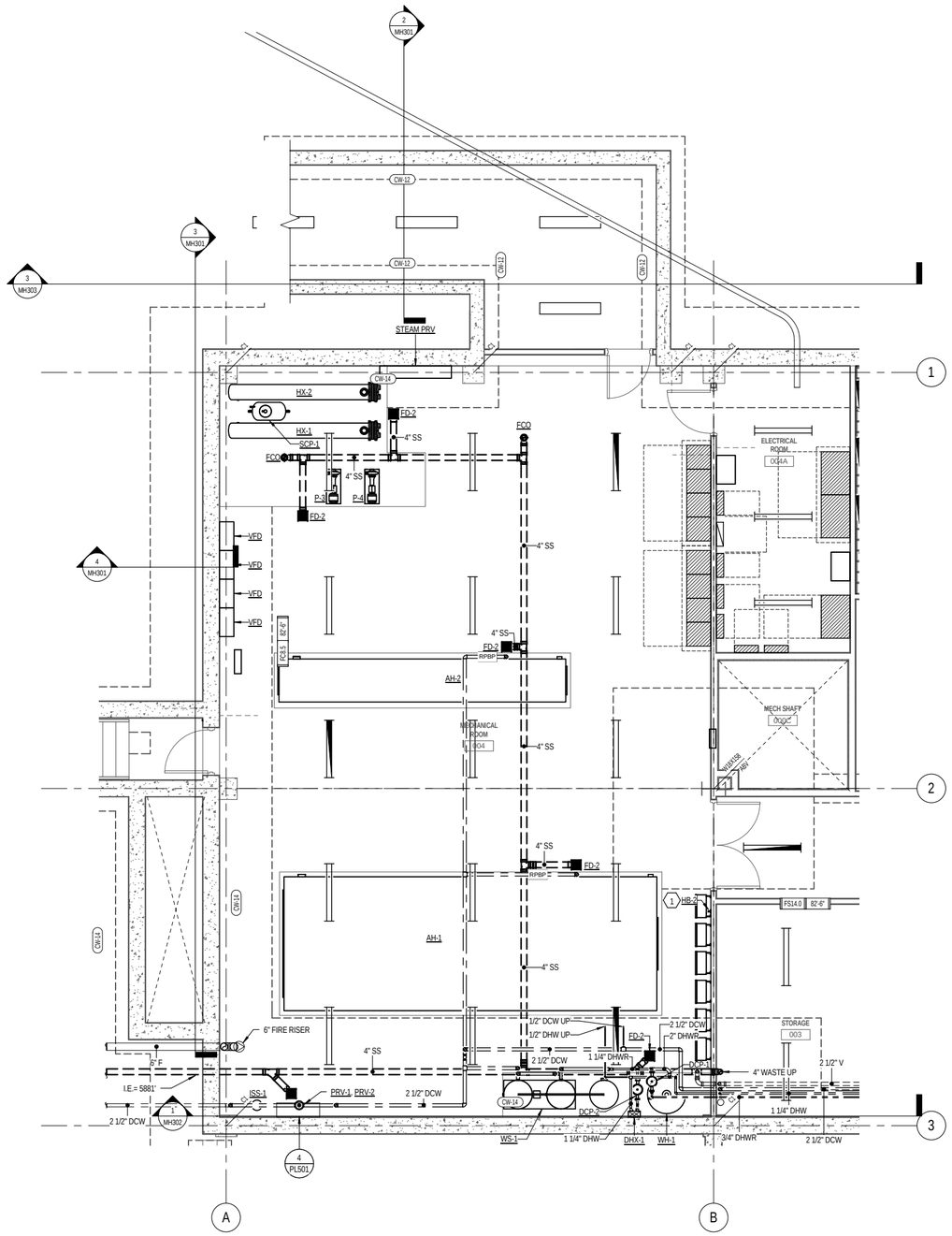

1 ENLARGED MECHANICAL ROOM

SCALE: 1/4" = 1'-0"

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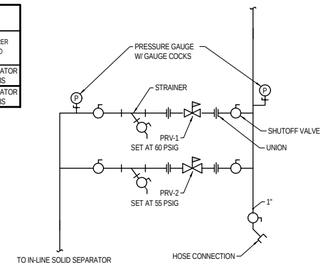
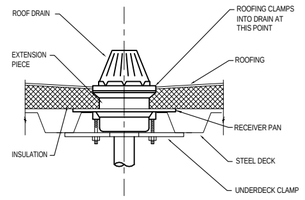
ENLARGED PLUMBING

PL402

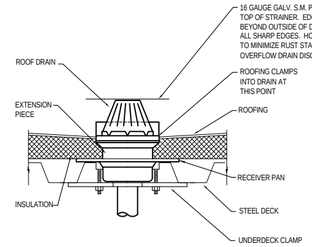
PRV SCHEDULE			
PLAN CODE	SIZE	MAX GPM @ 10 PSI Δ°	MANUFACTURER & MODEL NO
PRV-1	3/4"	20	WATTS REGULATOR SERIES 223S
PRV-2	1 1/2"	80	WATTS REGULATOR SERIES 223S



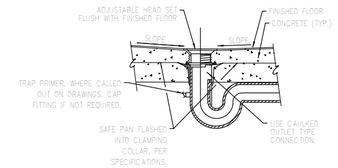
4 PRV STATION DETAIL
NO SCALE



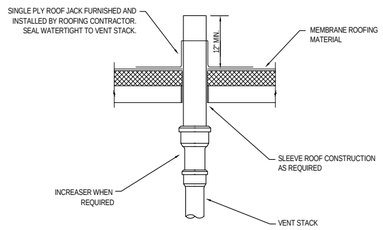
3 ROOF DRAIN DETAIL
NO SCALE



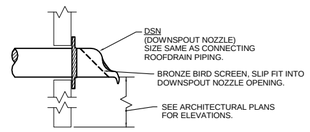
2 OVERFLOW ROOF DRAIN WITH HOOD DETAIL
NO SCALE



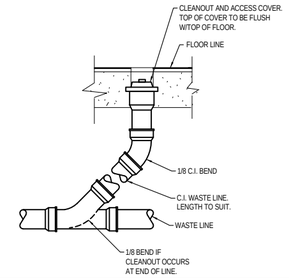
1 TYPICAL FLOOR DRAIN IN SUSPENDED SLAB DETAIL
NO SCALE



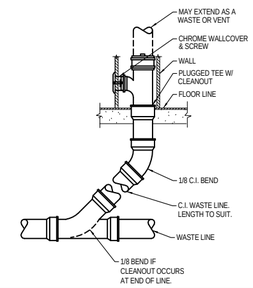
8 VENT THROUGH ROOF DETAIL
NO SCALE



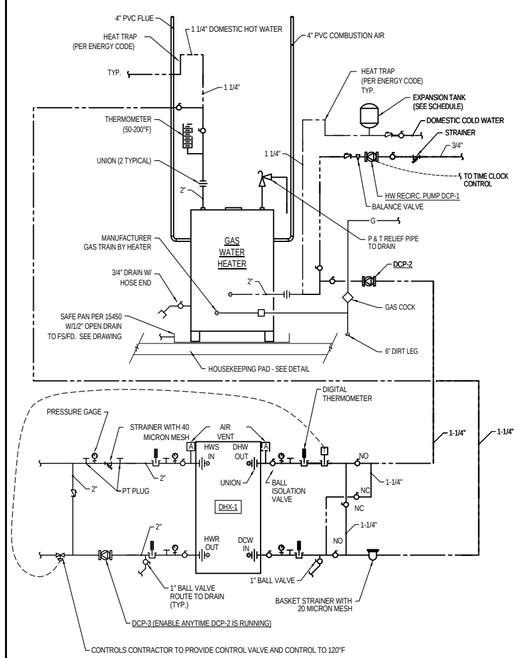
7 DOWNSPOUT NOZZLE DETAIL
NO SCALE



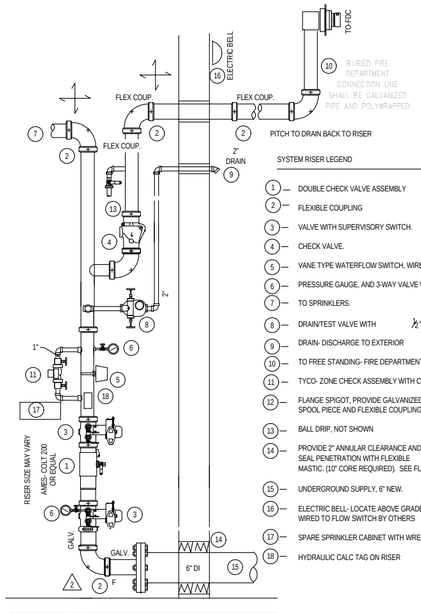
6 FLOOR CLEANOUT DETAIL
NO SCALE



5 WALL CLEANOUT DETAIL
NO SCALE



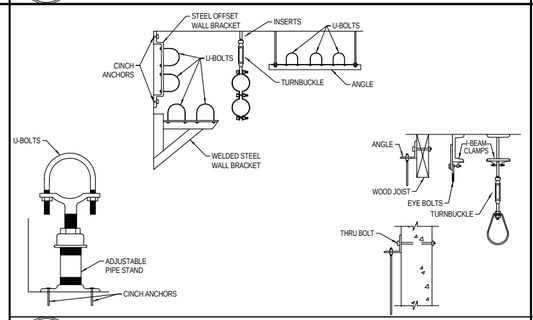
12 DOMESTIC HOT WATER HEAT EXCHANGER (DOUBLE WALL)
NO SCALE



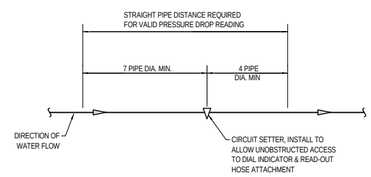
SYSTEM RISER LEGEND

1 — DOUBLE CHECK VALVE ASSEMBLY
2 — FLEXIBLE COUPLING
3 — VALVE WITH SUPERVISORY SWITCH.
4 — CHECK VALVE.
5 — VANE TYPE WATERFLOW SWITCH, WIRED BY OTHERS
6 — PRESSURE GAUGE, AND 3-WAY VALVE WITH PLUG AND NIPPLES.
7 — TO SPRINKLERS.
8 — DRAIN/TEST VALVE WITH 1/2" ORIFICE.
9 — DRAIN- DISCHARGE TO EXTERIOR
10 — TO FREE STANDING- FIRE DEPARTMENT CONNECTION
11 — TYCO- ZONE CHECK ASSEMBLY WITH CIRCULATION TEST PUMP
12 — FLANGE SPIGOT, PROVIDE GALVANIZED SPOOL PIECE AND FLEXIBLE COUPLINGS.
13 — BALL DRIP, NOT SHOWN
14 — PROVIDE 2" ANNULAR CLEARANCE AND RESTRAINT. SEAL PENETRATION WITH FLEXIBLE MASTIC. (10" CORE REQUIRED). SEE FLANGED SPIGOT DETAIL.
15 — UNDERGROUND SUPPLY, 6" NEW.
16 — ELECTRIC BELL- LOCATE ABOVE GRADE. WIRED TO FLOW SWITCH BY OTHERS
17 — SPARE SPRINKLER CABINET WITH WRENCH'S
18 — HYDRAULIC CALC TAG ON RISER

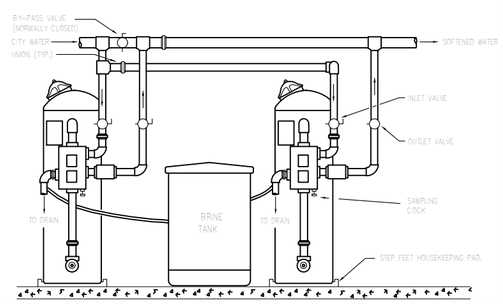
11 ZONED FIRE SPRINKLER RISER ASSEMBLY DETAILS
NO SCALE



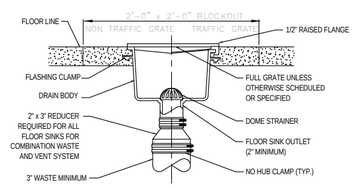
10 TYPICAL PIPE SUPPORT DETAILS
NO SCALE



9 CIRCUIT SETTER DETAIL
NO SCALE



14 TWIN UNIT WATER SOFTENER DETAIL
NO SCALE



13 FLOOR SINK DETAIL
NO SCALE

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GSBS PROJECT NO.:	2011-001.00
ISSUED DATE:	5/16/2012

DETAILS

PL501

EXPANSION TANK SCHEDULE (DET)

PLAN CODE	SYSTEM SERVED	WATER TEMP. (°F)	% GLYCOL	TANK VOL. (GAL)	ACCEPTANCE VOL. (GAL)	PRE-CHARGE (PSI)	MAX. DIMENSIONS			MANUFACTURER & MODEL NO.	REMARKS
							DIA. (IN.)	H (IN.)	OPERATING WT. (LBS)		
DET-1	DOMESTIC HOT WATER	140	0	14	8.9	55	17	20	200	AMTROL ST-30V-C	-

DOMESTIC HOT WATER RECIRCULATION PUMP SCHEDULE (DCP)

PLAN CODE	DUTY	GPM	FEET OF HEAD	PUMP RPM	MOTOR		WEIGHT (LBS)	MANUFACTURER & MODEL NO.	REMARKS
					FLA -	VOLTAGE & PHASE			
DCP-1	DOMESTIC HOT WATER RECIRC.	3	25	3300	2.3	115/1	20	B & G NBF-45	SPEED 3
DCP-2	HEATING WATER RECIRC.	40	15	3,250	4.7	115/1	15	B & G PL-55	ALL BRONZE WITH 1.25" CONNECTIONS

MIXING VALVE SCHEDULE (MV)

PLAN CODE	MIN GPM	MAX GPM	INLET SIZE	OUTLET SIZE	DIMENSION HxWxD (IN)	MANUFACTURER & MODEL NO.	REMARKS
MV-1	.5	20	1"	1"	6x6	WATTS MMV-M1	VALVE SHALL COMPLY WITH ASSE 1070
MV-2	3	58	3/4"	1"	11x14x5	LEONARD TM-G00	VALVE SHALL COMPLY WITH ANSI Z358.1 2004

DOMESTIC HOT WATER HEAT EXCHANGER SCHEDULE (DHX)

PLAN CODE	SYSTEM SERVED	HEATING WATER SIDE				DOMESTIC HOT WATER SIDE					FOULING RESISTANCE	TYPE	MANUFACTURER & MODEL NO
		GPM	EWT (°F) / LWT (°F)	PD (FT)	% GLYCOL	CAP (MBH)	EWT (°F) / LWT (°F)	GPM	PD (FT)	% GLYCOL			
DHX-1	DOMESTIC HOT WATER	40	110 / 130	7	-	394	140 / 120	40	7	-	.00010	DOUBLE WALL BRAZED PLATE 1-1/4" CONNECTIONS	GEA HEAT EXCHANGERS DWSX20-120

IN-LINE SOLIDS SEPARATOR SCHEDULE (ISS)

PLAN CODE	FLOW (GPM)	MAX. P.D. (PSI)	INLET/ OUTLET (IN)	MAX. DIMENSIONS (DIA. X H) (IN.)	MAX. OPERATING WEIGHT (LBS.)	MANUFACTURER & MODEL NO.	REMARKS
ISS-1	220	-	2"	9" X 22"	43	PENTEK L88302N4615 316 SS	BAG SIZE 2

ELECTRIC WATER HEATER SCHEDULE (WH)

PLAN CODE	CAP (GAL)	RECOVERY @ ELEV (GPH)	INPUT (KW)	TEMP RISE (°F)	MAX DIMENSIONS				MAX OPERATING WT (LBS)	MANUFACTURER & MODEL NO	REMARKS
					DIA (IN)	HEIGHT (IN)	VOLT/ PH	AMPS			
WH-1	80	20	2.0	40	24	60	277/1	-	880	AO SMITH DEN-80	-

PLUMBING FIXTURE SCHEDULE

PLAN CODE	DESCRIPTION	CONNECTION SIZE							COMMENTS
		VACUUM	DCW	DHW	TEMPERED	WASTE	VENT	STORM	
WC-1	WATER CLOSET-WALL MOUNTED	-	1"	-	-	3"	1 1/2"	-	KOHLER MODEL K-4330 "KINGSTON" WALL MOUNTED WATER CLOSET. WATER CLOSET SHALL BE PROVIDED WITH A SIPHON JET OPERATING SYSTEM AND AN ELONGATED BOWL. PROVIDE WITH KOHLER MODEL K-4670-SA LUSTRA ELONGATED OPEN FRONT ANTI-MICROBIAL SOLID PLASTIC TOILET SEAT WITH SELF-SUSTAINING CHECK HINGE. WATER CLOSET AND TOILET SEAT TO BE COLOR WHITE. PROVIDE WITH ZURN MODEL ZER6000AV-HET-CPM, LOW CONSUMPTION (1.28 GPF) FLUSHOMETER VALVE WITH BUMPER ON ANGLE STOP, OR EQUAL.
WC-2A	WATER CLOSET-WALL MOUNTED (ADA COMPLIANT)	-	1"	-	-	3"	1 1/2"	-	KOHLER MODEL K-4330 "KINGSTON" WALL MOUNTED WATER CLOSET. WATER CLOSET SHALL BE PROVIDED WITH A SIPHON JET OPERATING SYSTEM AND AN ELONGATED BOWL. PROVIDE WITH KOHLER MODEL K-4670-SA LUSTRA ELONGATED OPEN FRONT ANTI-MICROBIAL SOLID PLASTIC TOILET SEAT WITH SELF-SUSTAINING CHECK HINGE. WATER CLOSET AND TOILET SEAT TO BE COLOR WHITE. PROVIDE WITH ZURN MODEL ZER6000AV-HET-CPM LOW CONSUMPTION (1.28 GPF) FLUSHOMETER VALVE WITH BUMPER ON ANGLE STOP, OR EQUAL. PROVIDE APPROPRIATE FLUSH VALVE MODEL SO THAT LEVER IS ON ACCESSIBLE SIDE OF WATER CLOSET. WATER CLOSET TO MEET ADA FLOOR TO RIM HEIGHT REQUIREMENTS. OR EQUAL
U-1A	URINAL - WALL HUNG	-	-	-	-	2"	1 1/2"	-	ZURN MODEL Z5795 WATER LESS URINAL. URINAL SHALL BE OF VITREOUS CHINA WITH INTEGRAL TRAP. TO BE FURNISHED WITH WALL HANGERS, FASTENERS, TELESCOPING DRAIN LINE CONNECTION AND GASKET.
L-1	LAVATORY - UNDERCOUNTER MOUNTED (ADA COMPLIANT)	-	-	-	1/2"	2"	1 1/2"	-	KOHLER MODEL K-2214 "LADENA" UNDERCOUNTER LAVATORY. LAVATORY SHALL BE OF VITREOUS CHINA CONSTRUCTION, COLOR WHITE. LAVATORY IS TO BE PROVIDED WITH ZURN Z6912 BATTERY POWERED SENSORED FAUCET, BRASSCRAFT MODEL KTSR19 C 1/4 TURN BALL STOPS WITH LOOSE KEY AND BRAIDED STAINLESS STEEL VERTICAL TUBE. KOHLER K-8999 1 1/4" CAST BRASS P-TRAP, AND K-7715 LAVATORY DRAIN WITH 1 1/4" DIAMETER TAILPIECE. ADDITIONALLY PROVIDE ADA COMPLIANT SUPPLY AND DRAIN INSULATION KIT AND CARRIER WALL SUPPORT SYSTEM. PROVIDE LEONARD L70 THERMOSTATIC MIXING VALVE. ENTIRE INSTALLATION SHALL BE ADA COMPLIANT. OR EQUAL.
L-2	LAVATORY - WALL MOUNTED (ADA COMPLIANT)	-	-	-	1/2"	2"	1 1/2"	-	KOHLER MODEL K-1728 19" x 17" WALL MOUNTED LAVATORY. LAVATORY SHALL BE OF VITREOUS CHINA CONSTRUCTION, AND COLOR WHITE. LAVATORY SHALL HAVE 4" CENTERS HOLES. LAVATORY IS TO BE PROVIDED WITH ZURN Z6915 BATTERY POWERED SENSORED FAUCET, BRASSCRAFT MODEL KTSR19 C 1/4 TURN BALL STOPS WITH LOOSE KEY AND BRAIDED STAINLESS STEEL VERTICAL TUBE. KOHLER K-8999 1 1/4" CAST BRASS P-TRAP, AND K-7715 LAVATORY DRAIN WITH 1 1/4" DIAMETER TAILPIECE. ADDITIONALLY PROVIDE ADA COMPLIANT SUPPLY AND DRAIN INSULATION KIT AND CARRIER WALL SUPPORT SYSTEM. PROVIDE WATTS L111 THERMOSTATIC MIXING VALV. ENTIRE INSTALLATION SHALL BE ADA COMPLIANT. OR EQUAL.
SS-1	SERVICE SINK - FLOOR MOUNTED	-	3/4"	3/4"	-	3"	2"	-	KOHLER MODEL K-6710 "WHITBY" 28"x28" FLOOR MOUNTED SERVICE SINK FOR CORNER INSTALLATIONS. SERVICE SINK SHALL BE OF CAST IRON CONSTRUCTION WITH WHITE ENAMELED FINISH. SINK SHALL BE PROVIDED WITH COATED WIRE RIM GUARD MODEL K-8940 AND 3" I.P.S. STRAINER MODEL K-9146. SERVICE SINK SHALL ALSO BE PROVIDED WITH CHICAGO FAUCETS MODEL 540-LD897SWXFKCP WITH 8" CENTERS, VACUUM BREAKER SPOUT, 369, HANDLES, POLISHED CHROME PLATE EXTERIOR FINISH, WALL FLANGE, AND PAIL HOOK WITH WALL SUPPORT. OR EQUAL.
FD-1	FLOOR DRAIN (INDOOR FINISHED AREA USE)	-	-	-	-	2"	1 1/2"	-	J.R. SMITH MANUFACTURING COMPANY FIG. 2005Y-8-CP DUCO CAST IRON FLOOR DRAIN. ROUND CHROME PLATED NICKEL BRONZE STRAINER HEAD, 2" OUTLET, AND VANDAL PROOF SCREWS. STRAINER HEAD MUST BE HEEL PROOF. PROVIDE DEEP SEAL TRAP. NOTE: PROVIDE ROUND FLOOR DRAIN FOR SHOWER APPLICATIONS.
FD-2	FLOOR DRAIN (MECHANICAL ROOM USE)	-	-	-	-	SEE PLANS	2"	-	J.R. SMITH MANUFACTURING COMPANY FIG. 3150-Y SQUARE FLOOR SINK. FLOOR SINK SHALL BE CAST IRON CONSTRUCTION WITH ENAMEL INTERIOR FINISH. PROVIDE WITH HEAVY DUTY NICKEL BRONZE HALF GRATE. PROVIDE DEEP SEAL TRAP.
HB-1	HOSE BIBB - WALL MOUNTED (INDOOR FINISHED AREA USE)	-	3/4"	-	-	-	-	-	WOODFORD MANUFACTURING CO. MODEL 26 WALL MOUNTED BACKFLOW PROTECTED WALL FAUCET. HOSE BIBB TO BE PROVIDED WITH LOOSE KEY SHUTOFF, 3/4" INLET AND 3/4" MALE HOSE THREAD OUTLET. EXTERIOR FINISH TO BE POLISHED CHROME. OR EQUAL.
HB-2	HOSE BIBB	3/4"	3/4"	-	-	-	-	-	ACORN SERIES 8140 BRONZE NICKEL PLATED QUARTER "TWIN TEMP" WITH HOSE CONNECTION, VACUUM BREAKER, "T" HANDLE KEY, AND BRONZE BOX WITH CHROME PLATED FACE, PROVIDE SIZE INDICATED ON DRAWINGS.
SA-1	SHOCK ARRESTOR	-	3/4"	-	-	-	-	-	PRECISION PLUMBING PRODUCTS MODEL# SC-750.
SA-2	SHOCK ARRESTOR	-	1/2"	-	-	-	-	-	PRECISION PLUMBING PRODUCTS MODEL# SC-500.
RD-1	ROOF DRAIN - PRIMARY	-	-	-	-	-	-	SEE PLANS	J.R. SMITH FIG. 1015Y-E-R-C-CID-U LARGE GENERAL PURPOSE ROOF DRAIN WITH ADJUSTABLE EXTENSION. ROOF DRAIN SHALL BE PROVIDED WITH DUCO CAST IRON BODY WITH ADJUSTABLE EXTENSION SLEEVE, REVERSIBLE COLLAR, COMBINED FLASHING CLAMP AND GRAVEL STOP, CAST IRON DOME - FACTORY PAINTED BLACK, SUMP RECEIVER, UNDERDECK CLAMP AND VANDAL PROOF SECURITY SCREWS, OR EQUAL.
OD-1	ROOF DRAIN - SECONDARY	-	-	-	-	-	-	SEE PLANS	J.R. SMITH FIG. 1080Y-R-C-CID-U LARGE GENERAL PURPOSE ROOF DRAIN WIADJUSTABLE EXTENSION. PROVIDE WIDUCO CAST IRON BODY FLASHING CLAMP WIGRAVEL STOP, 2" CAST IRON WATER DAM, CAST IRON DOME, UNDERDECK CLAMP, SUMP RECEIVER, VANDAL PROOF SECURITY SCREWS, OR EQUAL. DAM AND DOME FACTORY PAINTED BLACK.
DSN-1	DOWNSPOUT NOZZLE	-	-	-	-	-	-	SEE PLANS	J.R. SMITH FIG. 1770-BS CAST BRONZE DOWNSPOUT NOZZLE WITH BIRD SCREEN. OR EQUAL.
S-1	SINK- COUNTER MOUNTED (ADA COMPLIANT)	-	1/2"	1/2"	-	2"	1 1/2"	-	ELKAY MODEL LRAD1918 19" x 18" x 6" DEEP SINGLE BOWL 18-GAUGE STAINLESS STEEL SINK, FULLY ADA COMPLIANT. SINK SHALL BE PROVIDED WITH TWO HOLE FAUCET DRILLING ON FOUR INCH CENTERS. SINK BOWL TO BE FULLY SOUND DEADENED. PROVIDE WITH ELKAY DRAIN/STRAINER, BRASSCRAFT MODEL KTSR19-C 1/4-TURN LOOSE KEY STOP WITH BRAIDED STAINLESS STEEL SUPPLY HOSES FOR HOT AND COLD WATER CONNECTIONS AND KOHLER MODEL K-9000 1-1/2" CAST BRASS P-TRAP. PROVIDE MOEN FAUCETS CHATEAU 7423 DECK MOUNT 4" CENTERSET FAUCET. 5 1/4" RIGID GOOSENECK SPOUT, POLISHED CHROME PLATED FINISH, SOLID BRASS BODY CONSTRUCTION. 4" WRIST BLADE METAL HANDLES WITH EIGHT POINT TAPERED BROACH AND SECURED COLOR CODED INDEX BUTTONS. QUANTUM QUARTER-TURN RENEWABLE COMPRESSION CARTRIDGE, 1/2" NPSM SUPPLY INLETS WITH COUPLING NUTS. PROVIDE WITH POLISHED CHROME FINISH RIGID/SWING VACUUM BREAKER SPOUT. PROVIDE FAUCET FOR THREE HOLE DRILLING ON FOUR INCH CENTERS. OR EQUAL
S-2	SINK - DOUBLE COMPARTMENT	-	1/2"	1/2"	-	2"	1 1/2"	-	ELKAY MODEL LR3319 33" X 19" DOUBLE COMPARTMENT 18-GAUGE STAINLESS STEEL SINK. PROVIDE WITH 3-HOLE 4" CENTER FAUCET DRILLING. BOWL TO FULLY SOUND DEADENED. PROVIDE WITH ELKAY MODEL LK-335 STRAINER WITH REMOVABLE BASKET AND NEOPRENE STOPPER. BRASSCRAFT MODEL KTSR19-C 1/4-TURN LOOSE KEY STOP WITH BRAIDED STAINLESS STEEL SUPPLY HOSES FOR HOT AND COLD WATER CONNECTIONS, AND K-9000 1 1/2" CAST BRASS P-TRAP. PROVIDE WITH MOEN FAUCET CAHTEAU 7423, POLISHED CHROME PLATED SOLID BRASS CONSTRUCTION. PROVIDE WITH SWING GOOSENECK SPOUT, 1.5 GPM AERATOR, WRISTBLADE HANDLES. OR EQUAL.
SC-1	SILLCOCK (OUTDOOR FREEZEPROOF USE)	-	3/4"	-	-	-	-	-	WOODFORD MANUFACTURING CO. MODEL 65 WALL MOUNTED, ANTI-SIPHON AUTOMATIC DRAINING FREEZELESS WALL HYDRANT. WALL HYDRANT SHALL BE PROVIDED WITH LOOSE KEE SHUTOFF, 3/4" INLET AND 3/4" MALE HOSE THREAD OUTLET, EXTERIOR FINISH SHALL BE CHROME. OR EQUAL.

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PLUMBING SCHEDULES

PL601

SYMBOLS LEGEND

SYMBOL	DESCRIPTION
	REFERENCE AND LINE SYMBOLS
A5 E-501	DETAIL INDICATOR: A5 INDICATES DETAIL NUMBER, E-501 INDICATES DRAWING SHEET WHERE DETAIL IS SHOWN.
A5 E-201	ELEVATION OR SECTION INDICATOR, EXTERIOR: A5 INDICATES ELEVATION OR SECTION NUMBER, E-201 INDICATES DRAWING SHEET WHERE ELEVATION OR SECTION IS SHOWN.
A5 E-201	ELEVATION OR SECTION INDICATOR, INTERIOR: A5 INDICATES ELEVATION OR SECTION NUMBER, E-201 INDICATES DRAWING SHEET WHERE ELEVATION OR SECTION IS SHOWN.
100	ROOM OR SPACE NUMBER.
1	KEYNOTE INDICATOR.
1	REVISION INDICATOR.
CU-1	EQUIPMENT INDICATOR.
	BREAK, STRAIGHT: TO BREAK PARTS OF DRAWING.
	BREAK, ROUND.
MATCH LINE SEE XX/X-XXX	MATCH LINE INDICATOR: CENTER, EXTRA WIDE LINE.
	NEW LINE: MEDIUM LINE.
	EXISTING TO REMAIN LINE: THIN LINE.
	WIRING METHODS
	WIRING.
	WIRING TURNED UP OR TOWARDS OBSERVER.
	WIRING TURNED DOWN OR AWAY FROM OBSERVER.
A-1,3,5	BRANCH CIRCUIT HOME RUN TO PANELBOARD: NUMBER OF ARROWS INDICATES NUMBER OF CIRCUITS. LETTER AND NUMBER NOTATIONS IDENTIFY PANEL AND CIRCUIT NUMBERS. USE #12 CONDUCTORS, EXCEPT #10 CONDUCTORS SHALL BE INSTALLED IF DISTANCES EXCEED THOSE SPECIFIED IN THE ELECTRICAL SPECIFICATIONS.
1 A-1,3,5	BRANCH CIRCUIT HOME RUN TO PANELBOARD: NUMBER OF ARROWS INDICATES NUMBER OF CIRCUITS. LETTER AND NUMBER NOTATIONS IDENTIFY PANEL AND CIRCUIT NUMBERS. NUMBER IN BOX REFERS TO THE CONDUCTOR AND CONDUIT SCHEDULE.
	FLEXIBLE WIRING.
— X —	WIRING AND/OR RACEWAY: THIN LINE. WHERE "X" = : CATV = CABLE TELEVISION; CCTV = CLOSED CIRCUIT TELEVISION; FA = FIRE ALARM; FO = FIBER OPTICS; P = POWER; S = SOUND; T = TELEPHONE; TV = TELEVISION OTHERS AS NOTED IN OTHER SCHEDULES. RACEWAYS AND WIRING SHALL BE SIZED AS SHOWN AND/OR SPECIFIED.
	LOW VOLTAGE WIRING: DIVIDE, MEDIUM LINE.
	CONDUIT STUB. DIMENSION RECORD DRAWINGS AND MARK.
1	CONDUCTOR & CONDUIT ("CC") SCHEDULE INDICATOR. REFER TO ONE-LINE DIAGRAM.
1	CONDUCTOR RUN IDENTIFICATION.
	JUNCTION BOX.
SC	JUNCTION BOX, SYSTEMS FURNITURE COMMUNICATION CONNECTION.
SP	JUNCTION BOX, SYSTEMS FURNITURE POWER CONNECTION.
PB	PULL BOX.
C C	CABLE TRAY ABOVE ACCESSIBLE CEILING.
	EARTH GROUND (ONE-LINE DIAGRAM).
C	JUNCTION BOX, CEILING.
	LADDER RACK.
	WIRING DEVICES
	RECEPTACLE, DUPLEX: NEMA 5-20R.
A	RECEPTACLE, DUPLEX, ABOVE COUNTER: NEMA 5-20R.
C	RECEPTACLE, DUPLEX, CEILING: NEMA 5-20R.
D	RECEPTACLE, DUPLEX, DEDICATED CIRCUIT: NEMA 5-20R.
DF	RECEPTACLE, DUPLEX WITH GROUND FAULT CIRCUIT INTERRUPTER, DRINKING FOUNTAIN: CONCEAL WATER COOLER RECEPTACLE BEHIND WATER COOLER. SEE MECHANICAL/PLUMBING SHOP DRAWINGS FOR INSTALLATION REQUIREMENTS.
IG	RECEPTACLE, DUPLEX, ISOLATED GROUND: NEMA 5-20R.
S	RECEPTACLE, DUPLEX, SWITCHED: NEMA 5-20R.
W	RECEPTACLE, DUPLEX WITH GROUND FAULT CIRCUIT INTERRUPTER, WET LABEL, "WEATHERPROOF IN USE": NEMA 5-20R.
WP	RECEPTACLE, DUPLEX WITH GROUND FAULT CIRCUIT INTERRUPTER, WEATHERPROOF: NEMA 5-20R.
	RECEPTACLE, DUPLEX ON EMERGENCY POWER: NEMA 5-20R.
	RECEPTACLE, DUPLEX WITH GROUND FAULT CIRCUIT INTERRUPTER: NEMA 5-20R.
	RECEPTACLE, QUADRAPLEX: NEMA 5-20R.
	RECEPTACLE, QUADRAPLEX ON EMERGENCY POWER: NEMA 5-20R.
	RECEPTACLE, SPECIAL PURPOSE. PROVIDE RECEPTACLE TO MATCH EQUIPMENT PLUG.
	RECEPTACLE, SPECIAL PURPOSE ON EMERGENCY POWER. PROVIDE RECEPTACLE TO MATCH EQUIPMENT PLUG.
	MULTI-OUTLET ASSEMBLY: NEMA 5-20R.
D	DROP CORD. SEE DETAIL.
FB#	FLUSH FLOOR BOX. "#" SHOWN ON DRAWINGS. REFER TO WIRING DEVICE SCHEDULE IN THE ELECTRICAL SPECIFICATIONS FOR CONFIGURATION AND DEVICES.
PT#	FLUSH FIRE RATED POKE THRU. "#" SHOWN ON DRAWINGS. REFER TO WIRING DEVICE SCHEDULE IN THE ELECTRICAL SPECIFICATIONS FOR CONFIGURATION AND DEVICES.
	SWITCH, DIMMER.
X $	SWITCH, SINGLE POLE ("x" INDICATES FIXTURES CONTROLLED).
X $3	SWITCH, THREE-WAY ("x" INDICATES FIXTURES CONTROLLED).

SYMBOLS LEGEND

SYMBOL	DESCRIPTION
X $4	SWITCH, FOUR-WAY ("x" INDICATES FIXTURES CONTROLLED).
$K	SWITCH, KEY OPERATED.
$P	SWITCH, PILOT LIGHT.
$T	SWITCH, TIMER OPERATED.
$WP	SWITCH, WEATHERPROOF.
	SITE ELECTRICAL AND COMMUNICATIONS UTILITIES
— 3ØUP —	ELECTRIC LINE: THIN LINE. 1Ø = SINGLE PHASE, 2Ø = 2-PHASE, 3Ø = 3-PHASE, O = OVERHEAD, U = UNDERGROUND, P = PRIMARY, S = SECONDARY
	UTILITY, DISTRIBUTION SWITCH OR SWITCHING STATION.
E	UTILITY, PRIMARY ELECTRICAL HAND HOLE.
C	UTILITY, COMMUNICATIONS MANHOLE.
E	UTILITY, ELECTRICAL MANHOLE.
T	UTILITY, TELEPHONE MANHOLE.
T	TRANSFORMER.
	LIGHTING (REFER TO FIXTURE SCHEDULE FOR SYMBOLS)
(W-3)	FIXTURE IDENTIFICATION: (W-3) INDICATES FIXTURE TYPE AS SCHEDULED.
(W-3)	FIXTURE IDENTIFICATION, EMERGENCY, CONNECTED TO GENERATOR AS INDICATED: (W-3) INDICATES FIXTURE TYPE AS SCHEDULED.
EM	EMERGENCY.
NL	NIGHT LIGHT: DO NOT SWITCH.
	EGRESS DIRECTION ARROW.
LV	LOW VOLTAGE LIGHTING TRANSFORMER.
	LIGHTING CONTROL
	OCCUPANCY SENSOR, DUAL TECHNOLOGY, OMNI-DIRECTIONAL, CEILING.
	OCCUPANCY SENSOR, DUAL TECHNOLOGY, WALL.
	OCCUPANCY SENSOR, DUAL TECHNOLOGY, DIRECTIONAL.
U	OCCUPANCY SENSOR, ULTRASONIC, OMNI-DIRECTIONAL, CEILING.
R	OCCUPANCY SENSOR CONTROL RELAY.
P	PHOTOCELL.
	STRUCTURED CABLING
X	TELEPHONE, WALL MOUNTED ("X" INDICATES QUANTITY OF CABLES).
P	TELEPHONE, WALL MOUNTED: PAY PHONE.
W	TELEPHONE, WALL MOUNTED: WALL PHONE.
X	OUTLET, DATA COMMUNICATION ("X" INDICATES QUANTITY OF CABLES).
	OUTLET, BUILDING STANDARD COMBINATION TELEPHONE/ DATA COMMUNICATION.
	TELEPHONE TERMINAL BOARD, FIRE TREATED PLYWOOD PAINTED.
	LAN RACK, FLOOR STANDING.
—D—	DATA CABLE, CATEGORY 5 (ONE-LINE DIAGRAM).
—V—	VOICE CABLE, CATEGORY 3 (ONE-LINE DIAGRAM).
	ELECTRICAL POWER AND DISTRIBUTION
	FUSE WITH RATING (ONE-LINE DIAGRAM).
	DISCONNECT, FUSED (ONE-LINE DIAGRAM).
	DISCONNECT, NONFUSED (ONE-LINE DIAGRAM).
	DISCONNECT WITH FUSE AND MOTOR STARTER COMBINATION (ONE-LINE DIAGRAM).
	OVERLOAD RELAY (ONE-LINE DIAGRAM).
	STARTER (ONE-LINE DIAGRAM).
	CIRCUIT BREAKER, MOLDED CASE (ONE-LINE DIAGRAM).
	CIRCUIT BREAKER, MOLDED CASE WITH SHUNT TRIP (ONE-LINE DIAGRAM).
MCP	CIRCUIT BREAKER, MOTOR CIRCUIT PROTECTION (ONE-LINE DIAGRAM).
	CIRCUIT BREAKER, SOLID STATE (ONE-LINE DIAGRAM).
GFP	CIRCUIT BREAKER, SOLID STATE WITH GROUND FAULT PROTECTION (ONE-LINE DIAGRAM).
	MOTOR.
	HEATER, ELECTRIC RESISTANCE.
	TRANSFORMER (ONE-LINE DIAGRAM).
	TRANSFORMER, CURRENT (ONE-LINE DIAGRAM).
	CAPACITOR (ONE-LINE DIAGRAM).
	DELTA CONNECTION (ONE-LINE DIAGRAM).
	WYE CONNECTION (ONE-LINE DIAGRAM).

SYMBOLS LEGEND

SYMBOL	DESCRIPTION
"1H"	PANELBOARD (ONE-LINE DIAGRAM).
225/3 "1H"	PANELBOARD WITH MAIN LUGS ONLY. BUS SIZE AND PHASE AS SHOWN (ONE-LINE DIAGRAM).
225/3 "1H"	PANELBOARD WITH MAIN CIRCUIT BREAKER. SIZE AND PHASE AS SHOWN (ONE-LINE DIAGRAM).
225/3 "1H" 60/3	PANELBOARD WITH MAIN AND SUB FEED CIRCUIT BREAKER (ONE-LINE DIAGRAM).
225/3 "1H" 25/3	PANELBOARD WITH MAIN LUGS ONLY AND SURGE PROTECTION WITH CIRCUIT BREAKER (ONE-LINE DIAGRAM).
225/3 "1H" 225/3 "1H"	PANELBOARD WITH SUB FEED LUGS (ONE-LINE DIAGRAM).
225/3 "1H" "1H"	PANELBOARD WITH CIRCUIT BREAKER AND SUB FEED LUGS (ONE-LINE DIAGRAM).
	CT CABINET (ONE-LINE DIAGRAM).
	TRANSFER SWITCH (ONE-LINE DIAGRAM).
DMM	DIGITAL MULTIMETER (ONE-LINE DIAGRAM).
	SERVICE ENTRANCE SURGE PROTECTION (ONE-LINE DIAGRAM).
	GENERATOR, ANNUNCIATOR (ONE-LINE DIAGRAM).
G	GENERATOR, POWER (ONE-LINE DIAGRAM).
M	METER.
VFC VFD	VARIABLE FREQUENCY MOTOR CONTROLLER (ONE-LINE DIAGRAM).
	DISCONNECT SWITCH, FUSED.
	DISCONNECT SWITCH, UNFUSED.
	STARTER, COMBINATION WITH DISCONNECT SWITCH.
	STARTER OR MOTOR CONTROLLER.
	PUSHBUTTON.
	PUSHBUTTONS, MOTOR CONTROL.
	PANELBOARD CABINET, FLUSH MOUNTED.
	PANELBOARD CABINET, SURFACE MOUNTED, 1 SECTION.
	PANELBOARD CABINET, SURFACE MOUNTED, 2 SECTION.
DP#	DISTRIBUTION PANEL OR SWITCHBOARD.
LP	LIGHTING RELAY, CONTACTOR PANEL, OR DIMMING ENCLOSURE.
	LIGHTING CONTROL STATION.
	DIMMING ENTRY STATION OR CONTROL STATION, FLUSH MOUNTED.
$ST	SWITCH, TOGGLE MOTOR STARTER WITH OVERLOAD PROTECTION.
75	TRANSFORMER: NUMBER INDICATES kVA.
	RELAY CONTACT, NORMALLY CLOSED (ONE-LINE DIAGRAM).
	RELAY CONTACT, NORMALLY OPEN (ONE-LINE DIAGRAM).
	PUSHBUTTON, NORMALLY CLOSED (ONE-LINE DIAGRAM).
	PUSHBUTTON, NORMALLY OPEN (ONE-LINE DIAGRAM).
	SWITCH, MULTIPOSITION (ONE-LINE DIAGRAM).
	SWITCH, SINGLE BREAK (ONE-LINE DIAGRAM).
HC	ACCESSIBLE DOOR ENTRY PUSH PLATE OPERATOR.
	FIRE ALARM
FSA	FIRE SYSTEM ANNUNCIATOR.
FCP	FIRE ALARM CONTROL PANEL, SEMI-RECESSED.
FPS	FIRE ALARM NOTIFICATION POWER SUPPLY.
FTR	FIRE ALARM TRANSPONDER OR TRANSMITTER.
C	AUTOMATIC DOOR CLOSERS: DOOR CLOSERS SHALL BE FURNISHED WITH DOOR HARDWARE AND CONNECTED TO BY FIRE ALARM INSTALLERS.
CM	CONTROL MODULE.
MM	MONITOR MODULE.
P	FIRE ALARM MANUAL PULL STATION.
R	SHUT DOWN RELAY: INSTALL RELAY IN CONTROL CIRCUIT OF EQUIPMENT TO BE CONTROLLED IN THE EVENT OF A FIRE.
	MAGNETIC DOOR HOLDER.
	DETECTOR, SMOKE.
BR	DETECTOR, SMOKE, BEAM RECEIVER.
BT	DETECTOR, SMOKE, BEAM TRANSMITTER.
E	DETECTOR, SMOKE, ELEVATOR RECALL DESIGNATION.

SYMBOLS LEGEND

SYMBOL	DESCRIPTION
	DETECTOR, SMOKE, DUCT WITH HOUSING AND SAMPLING TUBE.
	DETECTOR, HEAT.
	INDICATOR LAMP.
	STROBE.
75	STROBE. SUBSCRIPT INDICATES CANDELA RATING.
WP	ALARM, HORN/SPEAKER, WEATHERPROOF.
	ALARM, HORN/STROBE, ONE ASSEMBLY.
75	ALARM, HORN/STROBE, ONE ASSEMBLY. SUBSCRIPT INDICATES CANDELA RATING.
G	ALARM, HORN/STROBE WITH GUARD, ONE ASSEMBLY.
	DETECTOR, FLOW SWITCH: FLOW SWITCHES SHALL BE PROVIDED AND INSTALLED WITH FIRE SPRINKLER SYSTEM AND SHALL BE CONNECTED TO LOCATIONS SHOWN ON THE FIRE SPRINKLER SHOP DRAWINGS.
	DETECTOR, TAMPER SWITCH WITH VALVE: TAMPER SWITCHES SHALL BE PROVIDED AND INSTALLED WITH FIRE SPRINKLER SYSTEM AND SHALL BE CONNECTED TO LOCATIONS SHOWN ON THE FIRE SPRINKLER SHOP DRAWINGS.
SD	SMOKE DAMPER.
FSD	FIRE AND SMOKE DAMPER.
75	ALARM, HORN/STROBE, ONE ASSEMBLY, CEILING MOUNTED. SUBSCRIPT INDICATES CANDELA RATING.
	ALARM, HORN, CEILING MOUNTED.
75	ALARM, STROBE, CEILING MOUNTED. SUBSCRIPT INDICATES CANDELA RATING.
	TECHNOLOGY SYSTEMS
—X—	TECHNOLOGY SYSTEM CABLE. SEE SPECIFIC JOB EQUIPMENT LIST FOR APPLICABLE DESIGNATIONS. EXAMPLES: C = CONTROL CABLE G = GROUND CABLE, 10 AWG, 1 CONDUCTOR, GREEN INSULATED L = LINE LEVEL CABLE M = MICROPHONE CABLE S = SPEAKER CABLE, 70 VOLT SYSTEM Z = SPEAKER CABLE, 8 OHM SYSTEM
S#	SPEAKER, CEILING MOUNTED.
S#	SPEAKER, WALL MOUNTED.
	EQUIPMENT CABINET.
	MEDIA CONNECTION PLATE.
	AUDIO/VISUAL OUTLET.
	SCREEN, PROJECTION, CEILING MOUNTED.
	PROJECTOR, CEILING MOUNTED.
M	MICROPHONE INPUT.
V	VOLUME CONTROL.
M	VIDEO MONITOR.
	CLOCK
C	CLOCK.
	CCTV
—P—	CCTV CABLE, POWER.
—V—	CCTV CABLE, VIDEO SIGNAL.
CCTV	CCTV HEADEND EQUIPMENT.
M	CCTV MONITOR.
	CCTV CAMERA/ENCLOSURE WITH LENS, TYPICAL. SEE SCHEDULE.
PTZ	CCTV CAMERA WITH PAN, TILT AND ZOOM.
360°	PANNING CAMERA TRANSVERSE ANGLE.
	SECURITY
—X—	SECURITY CABLE. SEE EQUIPMENT SCHEDULE FOR CABLE TYPE.
ACC	ACCESS CONTROL HEADEND EQUIPMENT.
CTR	SECURITY CONTROL PANEL.
SEC	INTRUSION DETECTION HEADEND EQUIPMENT.
#1	CARD ACCESS DOOR TYPE #1 OR AS NOTED. SEE SCHEDULE.
CR	CARD READER.
ER	EXIT REQUEST.
	SENSOR, GLASS BREAK.
IC	INTERCOM STATION.
IRU	DUAL TECHNOLOGY PASSIVE INFRARED SENSOR AND ULTRASONIC MOTION DETECTOR.
IR	PASSIVE INFRARED SENSOR.
MSI	MASTER STATION, INTERCOM.

ABBREVIATIONS

NOTE: ALL ABBREVIATIONS MAY NOT BE USED.

1P	SINGLE POLE	kW	KILOWATT
1PH	SINGLE-PHASE	kWh	KILOWATT HOUR
3PH	THREE-PHASE	LED	LIGHT EMITTING DIODE
4PDT	FOUR-POLE DOUBLE THROW	LFMC	LIQUID TIGHT FLEXIBLE METAL CONDUIT
4PST	FOUR-POLE SINGLE THROW	LRA	LOCKED ROTOR AMPS
		LTG	LIGHTING
4W	FOUR-WIRE	LV	LOW VOLTAGE
A	ABOVE COUNTER	MATV	MASTER ANTENNA
AC	ARMORED CABLE		TELEVISION SYSTEM
ADA	AMERICANS WITH DISABILITIES ACT	MAX	MAXIMUM
		MCA	MINIMUM CIRCUIT AMPS
ADJ	ADJACENT	MCB	MAIN CIRCUIT BREAKER
AFF	ABOVE FINISHED FLOOR	MCC	MOTOR CONTROL CENTER
AFG	ABOVE FINISHED GRADE	MCP	MOTOR CIRCUIT
AIC	AMPERE INTERRUPTING		PROTECTION
	CAPACITY	MDP	MAIN DISTRIBUTION PANEL
AMP	AMPERE	MG	MOTOR GENERATOR
ANN	ANNUNCIATOR	MH	MANHOLE
AP	ACCESS POINT	MIN	MINIMUM
	(WIRELESS DATA)	MLO	MAIN LUGS ONLY
ASC	AMPS SHORT CIRCUIT	MOCP	MAXIMUM OVERCURRENT
ATS	AUTOMATIC TRANSFER		PROTECTION
	SWITCH	NA	NOT APPLICABLE
AV	AUDIO VISUAL	NC	NORMALLY CLOSED
AWG	AMERICAN WIRE GAGE	NEC	NATIONAL ELECTRICAL
C	CEILING MOUNTED		CODE
CATV	COMMUNITY ANTENNA	NEMA	NATIONAL ELECTRICAL
	TELEVISION		MANUFACTURERS
CB	CIRCUIT BREAKER		ASSOCIATION
CCBA	CUSTOM COLOR AS	NFC	NATIONAL FIRE CODE
	SELECTED BY ARCHITECT	NFPA	NATIONAL FIRE
CCTV	CLOSED CIRCUIT		PROTECTION ASSOCIATION
	TELEVISION	NIC	NOT IN CONTRACT
CFBA	CUSTOM FINISH AS	NL	NIGHT LIGHT
	SELECTED BY ARCHITECT	NO	NORMALLY OPEN
CF/CI	CONTRACTOR FURNISHED/	NTS	NOT TO SCALE
	CONTRACTOR INSTALLED	OC	ON CENTER
CF/OI	CONTRACTOR FURNISHED/	OCP	OVER CURRENT
	OWNER INSTALLED		PROTECTION
CKT	CIRCUIT	OF/CI	OWNER FURNISHED/
CM	CONSTRUCTION MANAGER		CONTRACTOR INSTALLED
CND	CONDUIT	OF/OI	OWNER FURNISHED/
CO	CONVENIENCE OUTLET		OWNER INSTALLED
CP	CONTROL PANEL	OFP	OBTAIN FROM PLANS
CT	CURRENT TRANSFORMER	OH DR	OVERHEAD (COILING)
CTV	CABLE TELEVISION	OL	DOOR
CU	COPPER	PB	OVERLOAD
dBA	UNIT OF SOUND LEVEL	PF	PUSHBUTTON
DPDT	DOUBLE POLE	PH	POWER FACTOR
	DOUBLE THROW	PNL	PHASE
EA	EACH	PT	PANEL
EM	EMERGENCY	PTZ	POTENTIAL TRANSFORMER
EMT	ELECTRICAL METALLIC	QTY	PAN/TILT/ZOOM
	TUBING	RCP	QUANTITY
EPO	EMERGENCY POWER OFF	RMC	REFLECTED CEILING PLAN
EQUIP	EQUIPMENT	RNC	RIGID METAL CONDUIT
EX	EXISTING		RIGID NONMETALLIC
F	FURNITURE MOUNTED	RPM	CONDUIT
FA	FIRE ALARM	SCA	REVOLUTIONS PER MINUTE
FCP	FIRE ALARM CONTROL	SCBA	SHORT CIRCUIT AMPS
	PANEL		STANDARD COLOR AS
FLA	FULL LOAD AMPS	SF	SELECTED BY ARCHITECT
FMC	FLEXIBLE METALCONDUIT	SFBA	SQUARE FOOT (FEET)
FOB	FREIGHT ON BOARD		STANDARD FINISH AS
FVNR	FULL VOLTAGE	SPDT	SELECTED BY ARCHITECT
	NON-REVERSING		SINGLE POLE,
G	GROUND	SPEC	DOUBLE THROW
GEN	GENERATOR	SPST	SPECIFICATION
GFCI	GROUND FAULT CIRCUIT		SINGLE POLE,
	INTERRUPTER	S/S	SINGLE THROW
GFP	GROUND FAULT	ST	START/STOP
	PROTECTION	SWBD	SINGLE THROW
HD	HEAVY DUTY	SWGR	SWITCHBOARD
HID	HIGH INTENSITY	TL	SWITCHGEAR
	DISCHARGE	TP	TWIST LOCK
HOA	HAND-OFF-AUTOMATIC	TTB	TWISTED PAIR
HP	HORSE POWER		TELEPHONE
HPF	HIGH POWER FACTOR	TV	TERMINAL BOARD
HPS	HIGH PRESSURE SODIUM	TVSS	TELEVISION
HV	HIGH VOLTAGE		TRANSIENT VOLTAGE
HZ	HERTZ	TYP	SURGE SUPPRESSER
IG	ISOLATED GROUND	UF	TYPICAL
IMC	INTERMEDIATE METAL	UGND	UNDERFLOOR
	CONDUIT	UPS	UNDERGROUND
IN/IS	INSULATED/ISOLATED		UNINTERRUPTIBLE
I/O	INPUT/OUTPUT	V	POWER SUPPLY
IR	INFRARED	VA	VOLTS
J-BOX	JUNCTION BOX	VFC/VFD	VOLT AMPERE
KV	KILOVOLT		VARIABLE FREQUENCY
KVA	KILOVOLT AMPERE	W/	MOTOR CONTROLLER
kVAR	KILOVOLT AMPERE	W/O	WITH
	REACTIVE	WP	WITHOUT
		XFMR	WEATHERPROOF
			TRANSFORMER

DEFINITIONS

NOTE: ALL DEFINITIONS MAY NOT BE USED.

INDICATED: THE TERM "INDICATED" REFERS TO GRAPHIC REPRESENTATIONS, NOTES, OR SCHEDULES ON THE DRAWINGS, OTHER PARAGRAPHS OR SCHEDULES IN THE SPECIFICATIONS, AND SIMILAR REQUIREMENTS IN THE CONTRACT DOCUMENTS. WHERE TERMS SUCH AS "SHOWN", "NOTED", "SCHEDULED", AND "SPECIFIED" ARE USED, IT IS TO HELP THE READER LOCATE THE REFERENCE, NO LIMITATION ON LOCATION IS INTENDED.

DIRECTED: TERMS SUCH AS "DIRECTED", "REQUESTED", AUTHORIZED", "SELECTED", "APPROVED", "REQUIRED", AND "PERMITTED" MEAN "DIRECTED BY THE ENGINEER", "REQUESTED BY THE ENGINEER", AND SIMILAR PHRASES.

APPROVED: THE TERM "APPROVED", WHERE USED IN CONJUNCTION WITH THE ENGINEER'S ACTION ON THE CONTRACTOR'S SUBMITTALS, APPLICATIONS, AND REQUESTS, IS LIMITED TO THE ENGINEER'S DUTIES AND RESPONSIBILITIES AS STATED IN GENERAL AND SUPPLEMENTARY CONDITIONS.

FURNISH: THE TERM "FURNISH" IS USED TO MEAN "SUPPLY AND DELIVER TO THE PROJECT SITE, READY FOR UNLOADING, UNPACKING, ASSEMBLY, INSTALLATION, AND SIMILAR OPERATIONS."

INSTALL: THE TERM "INSTALL" IS USED TO DESCRIBE OPERATIONS AT PROJECT SITE INCLUDING THE ACTUAL "UNLOADING, UNPACKING, ASSEMBLY, ERECTION, PLACING, ANCHORING, APPLYING, WORKING TO DIMENSION, FINISHING, CURING, PROTECTING, CLEANING, AND SIMILAR OPERATIONS."

PROVIDE: THE TERM "PROVIDE" MEANS "TO FURNISH AND INSTALL, COMPLETE AND READY FOR THE INTENDED USE."

INSTALLER: AN "INSTALLER" IS THE CONTRACTOR OR AN ENTITY ENGAGED BY THE CONTRACTOR, EITHER AS AN EMPLOYEE, SUBCONTRACTOR, OR SUB-SUBCONTRACTOR, FOR PERFORMANCE OF A PARTICULAR CONSTRUCTION ACTIVITY, INCLUDING INSTALLATION, ERECTION, APPLICATION, AND SIMILAR OPERATIONS. INSTALLERS ARE REQUIRED TO BE EXPERIENCED IN THE OPERATIONS THEY ARE ENGAGED TO PERFORM.

TECHNOLOGY SYSTEMS: THE TERM "TECHNOLOGY SYSTEMS" IS USED TO DESCRIBE ALL LOW VOLTAGE SYSTEMS GENERALLY REFERRED TO AS "SPECIAL SYSTEMS". THESE SYSTEMS INCLUDE BUT ARE NOT NECESSARILY LIMITED TO ALL SYSTEMS WHICH UTILIZE VOLTAGES OF LESS THAN 71 VOLTS SUCH AS SOUND SYSTEMS, VIDEO SYSTEMS, TV SYSTEMS, SECURITY SYSTEMS, VOICE AND DATA CABLING SYSTEMS, ETC...

GENERAL ELECTRICAL NOTES

1. CLARIFICATION METHODS: AT THE TIME OF BIDDING, BIDDERS SHALL FAMILIARIZE THEMSELVES WITH THE DRAWINGS AND SPECIFICATIONS. ANY QUESTIONS, MISUNDERSTANDINGS, CONFLICTS, DELETIONS, DISCONTINUED PRODUCTS, CATALOG NUMBER DISCREPANCIES, DISCREPANCIES BETWEEN THE EQUIPMENT SUPPLIED AND THE INTENT OR FUNCTION OF THE EQUIPMENT, ETC, SHALL BE SUBMITTED TO THE ARCHITECT/ENGINEER IN WRITING FOR CLARIFICATION PRIOR TO ISSUANCE OF THE FINAL ADDENDUM AND BIDDING OF THE PROJECT. WHERE DISCREPANCIES OR MULTIPLE INTERPRETATIONS OCCUR, THE MOST STRINGENT (WHICH IS GENERALLY RECOGNIZED AS THE MOST COSTLY) THAT MEETS THE INTENT OF THE DOCUMENTS SHALL BE ENFORCED.
2. EXPOSED STRUCTURE AREAS (EXCLUDING MECHANICAL, ELECTRICAL, AND COMMUNICATION SPACES): INSTALL RACEWAYS BETWEEN DECK AND STRUCTURE WHEREVER POSSIBLE IN EXPOSED STRUCTURE CEILING AREAS. ROUTE RACEWAYS IN CONCEALED AREAS WHEREVER POSSIBLE. REFER ALL CONDITIONS WHERE RACEWAYS MUST BE INSTALLED WHICH CANNOT COMPLY WITH THESE REQUIREMENTS TO THE ARCHITECT.
3. REFLECTED CEILING PLANS: COORDINATE THE LOCATION OF LIGHT FIXTURES WITH THE ARCHITECTURAL REFLECTED CEILING PLANS. REFER ALL DISCREPANCIES TO THE ARCHITECT AND ENGINEER.

ELECTRICAL SHEET INDEX

EE001	SHEET INDEX, ABBREVIATIONS, AND GENERAL NOTES
EE501	DETAILS
EE502	DETAILS
EE701	TYPICAL MOUNTING HEIGHT DETAILS
ES101	SITE ELECTRICAL PLAN
EP100	BASEMENT POWER PLAN
EP101	LEVEL 1 POWER PLAN
EP102	LEVEL 2 POWER PLAN
EP103	ROOF POWER PLAN
EP601	ONE-LINE DIAGRAM
EP602	EQUIPMENT SCHEDULE
EP603	PANEL SCHEDULES
EP604	PANEL SCHEDULES
EL100	BASEMENT LIGHTING PLAN
EL101	LEVEL 1 LIGHTING PLAN
EL102	LEVEL 2 LIGHTING PLAN
EL501	LIGHTING CONTROL DETAILS
EL601	LIGHTING FIXTURE SCHEDULE
EL602	LIGHTING CONTROL SCHEDULES AND DETAILS
ET100	BASEMENT TELECOMMUNICATIONS PLAN
ET101	LEVEL 1 TELECOMMUNICATIONS PLAN
ET102	LEVEL 2 TELECOMMUNICATIONS PLAN
ET601	TELECOMMUNICATIONS ROUGH-IN SCHEDULE, NOTES, AND RISER DIAGRAM
EY100	BASEMENT AUXILIARY PLAN
EY101	LEVEL 1 AUXILIARY PLAN
EY102	LEVEL 2 AUXILIARY PLAN
EY601	AUXILIARY SYSTEMS DETAILS AND DIAGRAMS
EJ101	LEVEL 1 AUDIO-VIDEO PLAN
EJ102	LEVEL 2 AUDIO-VIDEO PLAN
EJ301	AUDIO-VIDEO SECTION DETAILS
FA100	BASEMENT FIRE ALARM PLAN
FA101	LEVEL 1 FIRE ALARM PLAN
FA102	LEVEL 2 FIRE ALARM PLAN
FA601	FIRE ALARM RISER
TT501	TELECOMMUNICATIONS DETAILS
TT601	TELECOMMUNICATIONS RISER DIAGRAM

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OWNER PROJECT NO.:	
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SHEET INDEX, ABBREVIATIONS, AND GENERAL NOTES

EE001

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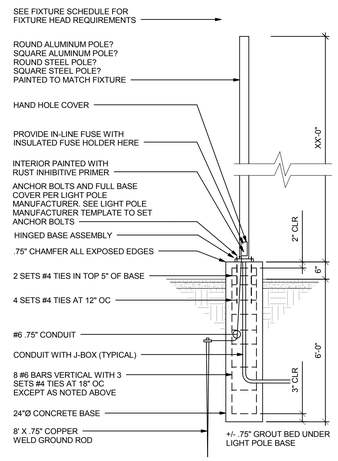
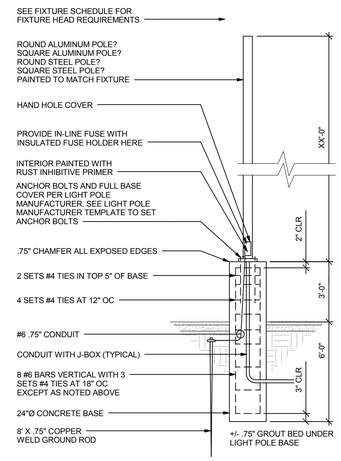
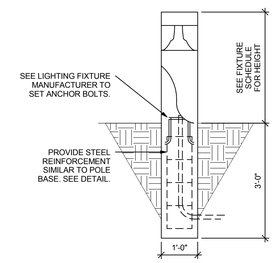


4 WALKWAY LIGHT POLE BASE DETAIL
EE501 SCALE: N.T.S.

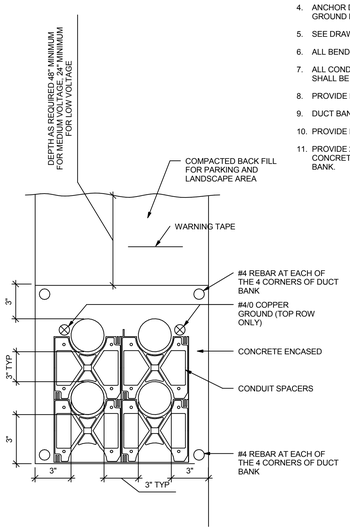


5 PARKING LOT LIGHT POLE BASE DETAIL
EE501 SCALE: N.T.S.

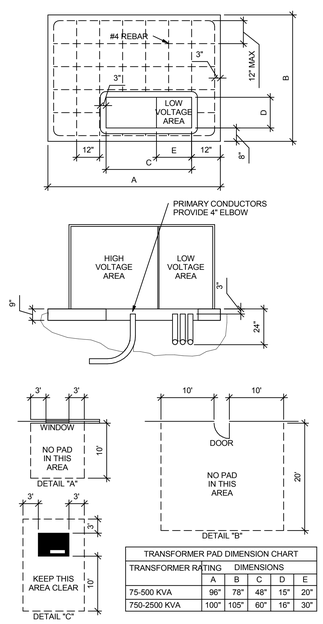


6 BOLLARD MOUNTING DETAIL
EE501 SCALE: N.T.S.

NOTES:
1. PROVIDE SPACERS APPROVED FOR SIZE OF CONDUIT PROVIDED.
2. THE LAST 10' OF DUCTS ENTERING MANHOLE, PULL BOX, TUNNEL OR DUCT TRENCH SHALL BE RMC WITH OZ/GEDNEY BELL ENDS.
3. TIE DUCT BUNDLES WITH PLASTIC TAPE. DO NOT USE METAL WIRE.
4. ANCHOR DUCT BUNDLES DOWN WITH #3 OR LARGER REBAR DRIVEN INTO GROUND BETWEEN DUCTS.
5. SEE DRAWINGS FOR SIZE AND NUMBER OF CONDUITS IN DUCT BANK.
6. ALL BENDS SHALL BE LARGE RADIUS.
7. ALL CONDUIT ABOVE GROUND, ALL BENDS AND FIRST 10' BELOW GROUND SHALL BE WRAPPED RMC. CONDUIT BELOW GROUND MAY BE PVC.
8. PROVIDE POLYPROPYLENE PULL ROPE IN EMPTY CONDUITS.
9. DUCT BANKS SHALL HAVE A MINIMUM SLOPE OF 4" PER 100 FEET.
10. PROVIDE RED DYE IN CONCRETE.
11. PROVIDE 2 EACH #4/O COPPER GROUND CONDUCTORS IN DUCT BANK CONCRETE. BOND CONDUCTORS TO GROUND SYSTEM AT EACH END OF DUCT BANK.



1 TYPICAL CONDUIT DUCT BANK DETAIL
EE501 SCALE: N.T.S.

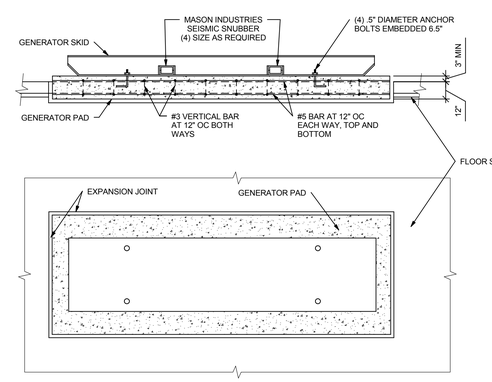


TRANSFORMER PAD DIMENSION CHART					
TRANSFORMER RATING	DIMENSIONS				
	A	B	C	D	E
75-500 KVA	96"	78"	48"	15"	20"
750-2500 KVA	100"	105"	60"	16"	30"

2 TRANSFORMER PAD DETAIL
EE501 SCALE: N.T.S.

CONTRACTOR GENERAL NOTES:

1. SITE PREPARATION. ALL SOIL BENEATH THE PAD SITE MUST BE COMPACTED AND LEVEL PRIOR TO SETTING OR POURING THE PAD TO PREVENT SETTLING.
2. CONCRETE. STEEL REINFORCEMENT SHALL BE #4 BARS, PLACED ACCORDING TO THE DRAWING. THE PAD MUST BE POURED AT LEAST SEVEN FULL DAYS PRIOR TO SETTING THE TRANSFORMER. THE FINISHED SURFACE MUST BE COMPLETELY FLAT AND LEVEL. SEE STANDARD 73 036 FOR CONCRETE SPECIFICATIONS.
3. PREFABRICATION. THE PAD MAY EITHER BE CONSTRUCTED ON THE SITE OR PREFABRICATED ACCORDING TO SPECIFICATIONS.
4. CONDUIT WINDOW LAYOUT. LOW VOLTAGE CONDUITS SHALL BE FORMED AS TIGHTLY AS POSSIBLE AGAINST THE RIGHT SIDE OF THE OPENING AND SHALL IN NO CASE EXTEND FURTHER THAN 20" FROM THE RIGHT SIDE OF THE CONDUIT WINDOW ON THE SMALL PAD OR 30" ON THE LARGE PAD. NO MORE THAN 8 CONDUITS WILL BE USED ON THE LOW VOLTAGE SIDE (NOT INCLUDING THE METERING CONDUIT). DO NOT PUT ANY CONCRETE IN OR UNDER THE CONDUIT WINDOW. USE SOIL TO SEPARATE CONDUITS. BELL ENDS ARE REQUIRED FOR ALL METAL CONDUIT, BUT NOT FOR PLASTIC CONDUIT.
5. CLEARANCES. THE FRONT OF THE PAD SHOULD ALWAYS FACE AWAY FROM ADJACENT STRUCTURES AND BE FREE OF OBSTRUCTIONS. AT LEAST 3 FEET MUST SEPARATE THE EDGES OF THE PAD FROM ANY ADJACENT STRUCTURE. THE EDGES OF THE PAD MUST BE AT LEAST 10 FEET FROM ANY COMBUSTIBLE STRUCTURE. IF AN ADJACENT STRUCTURE HAS ANY OVERHANG OR EAVE WITHIN 27 VERTICAL FEET OF THE TOP OF THE PAD, CLEARANCES MUST BE MEASURED FROM THE OUTSIDE OF THE OVERHANG. THE PAD MUST NOT BE PLACED IN AN AREA 10 FEET IN LINE WITH OR 3 FEET TO EITHER SIDE OF ANY WINDOW IN AN ADJACENT STRUCTURE (SEE DETAIL "A"). CLEARANCE FOR A DOOR MUST BE 20 FEET IN LINE WITH IT AND 10 FEET ON THE SIDES (SEE DETAIL "B"). PADS MUST NOT BE PLACED WITHIN 15 FEET OF ANY VALVE OR WITHIN 20 FEET OF ANY PLUMBING OR STORAGE FACILITY CONTAINING FLAMMABLE MATERIAL. NO WALLS, FENCES, OR ANY OTHER OBSTRUCTIONS WILL BE PLACED WITHIN 3 FEET OF THE SIDES OR BACK OF THE PAD, OR WITHIN 10 FEET OF THE FRONT OF THE PAD (SEE DETAIL "C"). THE AREA IN FRONT OF THE PAD MUST HAVE 10 FEET OF CLEAR, LEVEL WORKING AREA FOR MAINTENANCE OF THE TRANSFORMER. THE PAD MAY NOT BE PLACED IN LINE WITH AN AIR INTAKE WITHIN 32 VERTICAL FEET OF THE SURFACE PAD. ALSO VERTICALLY, IT MUST NOT BE PLACED WITHIN 12 FEET OF A DOOR OR WINDOW.
6. BARRIERS. IF THE TRANSFORMER PAD IS TO BE LOCATED IN AREAS SUBJECT TO VEHICULAR TRAFFIC, (PARKING LOTS, DRIVEWAYS, ETC) CONTACT CAMPUS POWER & LIGHT FOR PROTECTIVE BARRIER REQUIREMENTS.
7. IF THE TRANSFORMER WILL NOT COVER THE CABLE OPENINGS ON THESE STANDARD PADS, SEAL THE SIDES OF THE CABLE OPENING TO FIT THE TRANSFORMER USING SAKRETE OR COMPARABLE.



NOTE:
ELECTRICAL CONTRACTOR SHALL FURNISH GENERAL CONTRACTOR WITH GENERATOR PAD DIMENSIONS SO THAT BLOCK WILL BE MADE FOR GENERATOR PAD. GENERATOR PAD SHALL BE SEPARATE FROM BUILDING FLOOR SLAB TO PROVIDE PROPER VIBRATION ISOLATION.

3 GENERATOR PAD DETAIL
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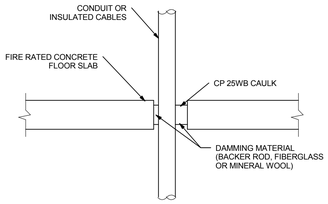
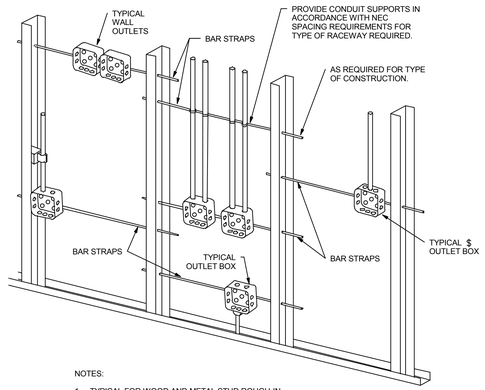


10 EE502 TYPICAL FIRE STOP FOR CABLES/CONDUIT THROUGH CONCRETE FLOORING

SCALE: N.T.S.

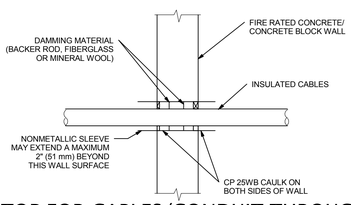


NOTES:

1. TYPICAL FOR WOOD AND METAL STUD ROUGH-IN.
2. PLASTER RINGS NOT SHOWN.
3. LOCATE ALL OUTLET BOXES IN ACCORDANCE WITH ARCHITECTURAL AND MECHANICAL DRAWINGS AND WITH ALL APPLICABLE SHOP DRAWINGS.
4. IN ACCORDANCE WITH IBC 711.3.2 EXCEPTION 1, OUTLETS ON OPPOSITE SIDES OF WALLS OR PARTITIONS IN THE SAME STUD SPACE IN A RATED FIRE SEPARATION WALL MUST BE SEPARATED BY A MINIMUM OF 24" HORIZONTAL DISTANCE.
5. IN NON-RATED WALLS, OUTLETS ON OPPOSITE SIDES OF WALLS OR PARTITIONS MUST BE SEPARATED BY 16" FOR SOUND ATTENUATION.

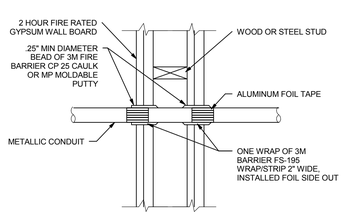
9 EE502 TYPICAL ROUGH-IN REQUIREMENTS DETAIL

SCALE: N.T.S.



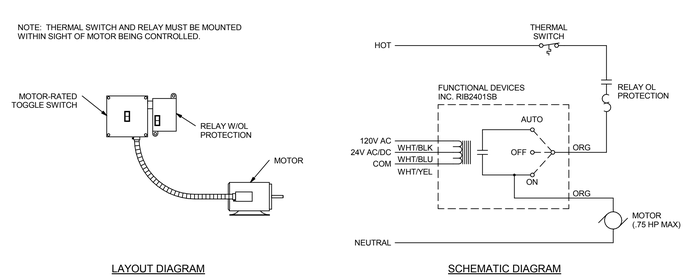
8 EE502 TYPICAL FIRE STOP FOR CABLES/CONDUIT THROUGH CONCRETE WALLS

SCALE: N.T.S.



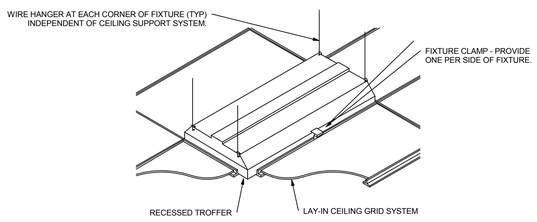
6 EE502 FIRE STOP FOR METAL CONDUIT THROUGH GYPSUM WALL BOARD

SCALE: N.T.S.



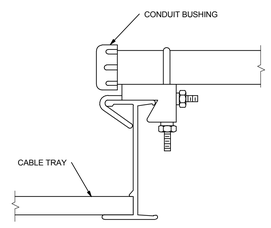
7 EE502 120V FRACTIONAL MOTOR CONTROL

SCALE: N.T.S.



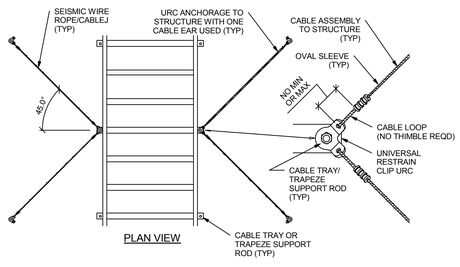
4 EE502 RECESSED FIXTURE MOUNTING DETAIL

SCALE: N.T.S.



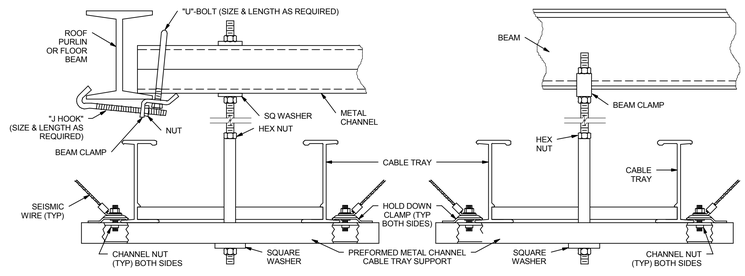
5 EE502 CONDUIT TO TRAY ADAPTER

SCALE: N.T.S.



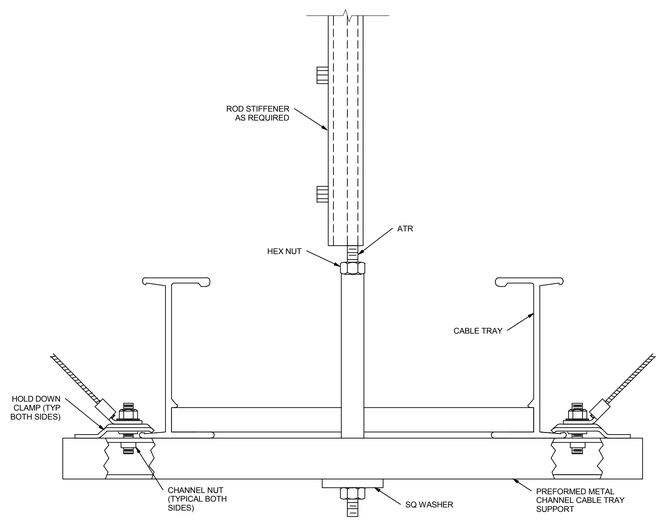
1 EE502 SEISMIC WIRE ROPE/CABLEJ BRACING

SCALE: N.T.S.



2 EE502 INDOOR MOUNTING DETAIL

SCALE: N.T.S.



3 EE502 CENTER HUNG TRAY SUPPORT

SCALE: N.T.S.

GENERAL SHEET NOTES

1. PLANS, IN GENERAL, SHOW CABLE TRAYS IN PLAN AND DO NOT DETAIL CHANGES IN ELEVATION. COORDINATE LAYOUT AND INSTALLATION OF CABLE TRAYS AND SUSPENSION SYSTEM WITH OTHER CONSTRUCTION ELEMENTS. INCLUDE TRANSITIONS, OFFSETS AND CHANGES IN ELEVATION. COORDINATE ITEMS THAT PENETRATE CEILINGS OR ARE SUPPORTED BY THEM, INCLUDING LIGHT FIXTURE, HVAC EQUIPMENT, FIRE SUPPRESSION SYSTEM AND PARTITION ASSEMBLIES.
2. PROVIDE FIRE STOPPING MATERIALS TO MAINTAIN FIRE RATINGS CONSISTENT WITH PENETRATED BARRIERS. PROVIDE SLEEVES FOR PENETRATION SLOTS/OPENINGS. MATCH CROSS SECTIONAL AREA OF CABLE TRAY. PROVIDE SEALINGS FILLERS.

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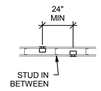
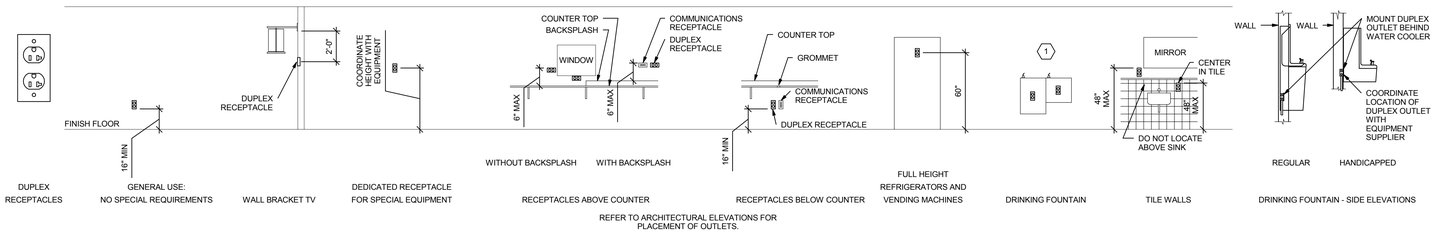
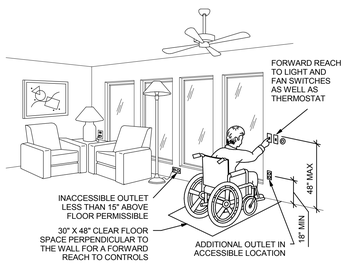


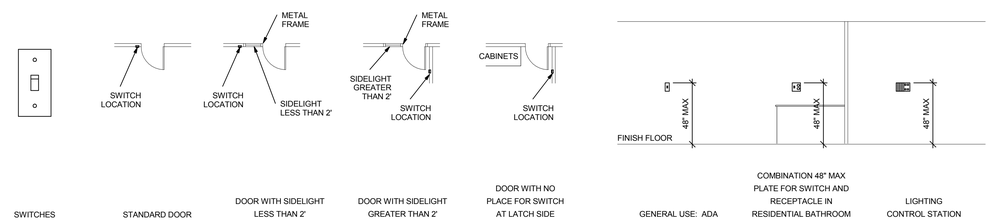
BOXES ON OPPOSITE SIDES OF WALL

E5 / EE701 BOX MOUNTING DETAILS
SCALE: N.T.S.



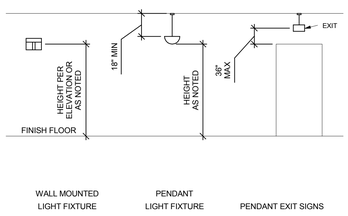
D1 / EE701 RECEPTACLE MOUNTING DETAILS
SCALE: N.T.S.

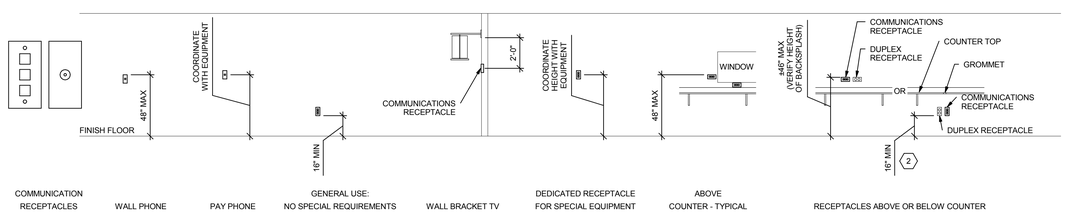




C1 / EE701 ADA DETAIL
SCALE: N.T.S.

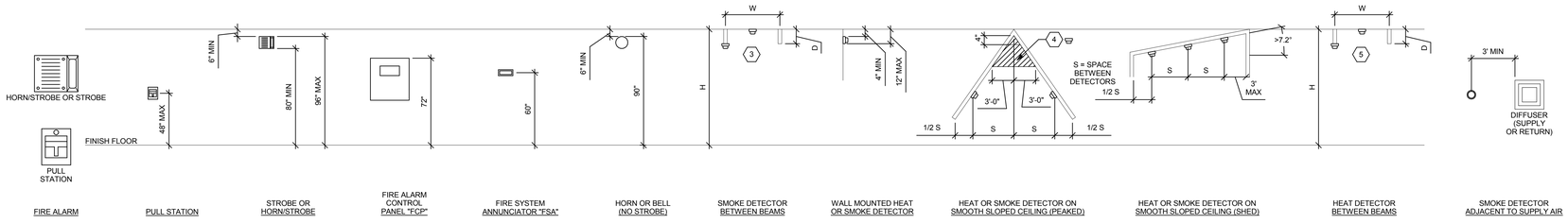
C2 / EE701 SWITCH MOUNTING DETAILS
SCALE: N.T.S.





B1 / EE701 LIGHTING MOUNTING DETAILS
SCALE: N.T.S.

B2 / EE701 COMMUNICATIONS MOUNTING DETAILS
SCALE: N.T.S.



A1 / EE701 FIRE ALARM MOUNTING DETAILS
SCALE: N.T.S.

GENERAL SHEET NOTES

1. DETERMINE MOUNTING HEIGHTS OF ELECTRICAL AND ELECTRONIC EQUIPMENT IN THE FOLLOWING ORDER OF PRIORITY:

   1 - ELEVATIONS (ARCHITECTURAL, ELECTRICAL, MECHANICAL, ETC).

   2 - EQUIPMENT SHOP DRAWINGS.

   3 - FIELD INSTRUCTIONS.
2. LOCATE RECEPTACLES SERVING THE SAME TYPE OF USE AT A UNIFORM HEIGHT UNLESS DIRECTED OTHERWISE.
3. MECHANICAL, ELECTRICAL, AND COMMUNICATION ROOMS: COORDINATE LOCATION OF LIGHTING AND POWER RECEPTACLES WITH EQUIPMENT, PIPING, AND DUCTWORK. DO NOT INSTALL RECEPTACLES BEHIND EQUIPMENT OR WHERE OTHERWISE INACCESSIBLE. POSITION LIGHTING REGARDLESS OF WHERE SHOWN ON DRAWING TO PROVIDE PROPER ILLUMINATION.
4. MOUNT RECEPTACLE BOXES FOR SWITCHES AND RECEPTACLES WITH LONG AXIS OF THE DEVICE VERTICAL UNLESS OTHERWISE INDICATED.
5. SET BOXES WITH PLASTER RINGS FLUSH WITH FINISHED SURFACE.
6. LOCATE BOX COVERS OR DEVICE PLATES SO THEY WILL NOT SPAN DIFFERENT TYPES OF BUILDING FINISHES EITHER VERTICALLY OR HORIZONTALLY.
7. VERIFY ALL DOOR CONDITIONS ON ARCHITECTURAL DRAWINGS PRIOR TO INSTALLING SWITCHES.
8. LOCATE WIREING DEVICES WHICH ARE ADJACENT AND ARE COMPATIBLE VOLTAGES IN ONE PLATE.

SHEET KEYNOTES

1. LOCATE RECEPTACLES BEHIND DRINKING FOUNTAINS.
2. REFER TO ARCHITECTURAL ELEVATIONS FOR PLACEMENT OF OUTLETS.
3. LOCATE AT BOTTOM OF BEAMS (OR JOISTS) OR AT CEILING. (REDUCE SPACING BY .5 PERPENDICULAR TO BEAM OR JOIST DIRECTION.) FOR OTHER CONDITIONS, REFER TO NFPA 72.
4. LOCATE DETECTOR ANYWHERE IN SHADED AREA BUT NOT IN TOP 4" OF PEAK.
5. LOCATE AT BOTTOM OF BEAMS IF D/H < .1 OR W/H < .4; OTHERWISE, LOCATE IN BEAM POCKET. FOR D > 4 REDUCE SPACING .33 PERPENDICULAR TO BEAMS.

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TYPICAL MOUNTING HEIGHT DETAILS

EE701

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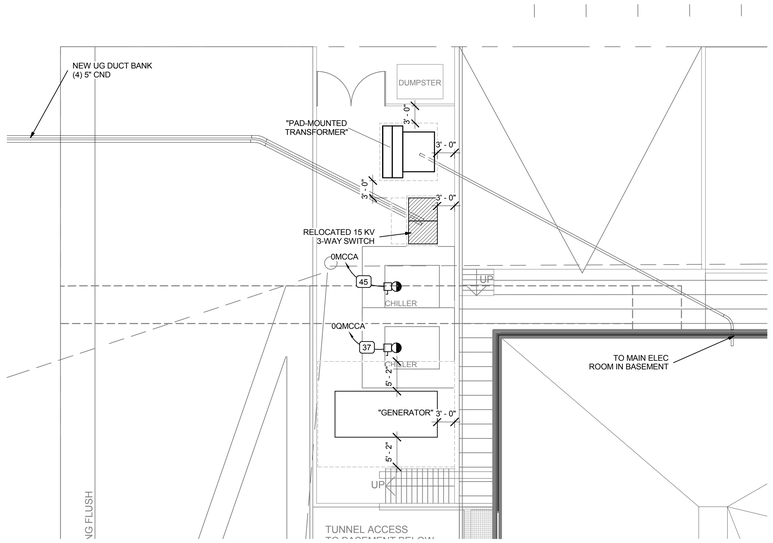
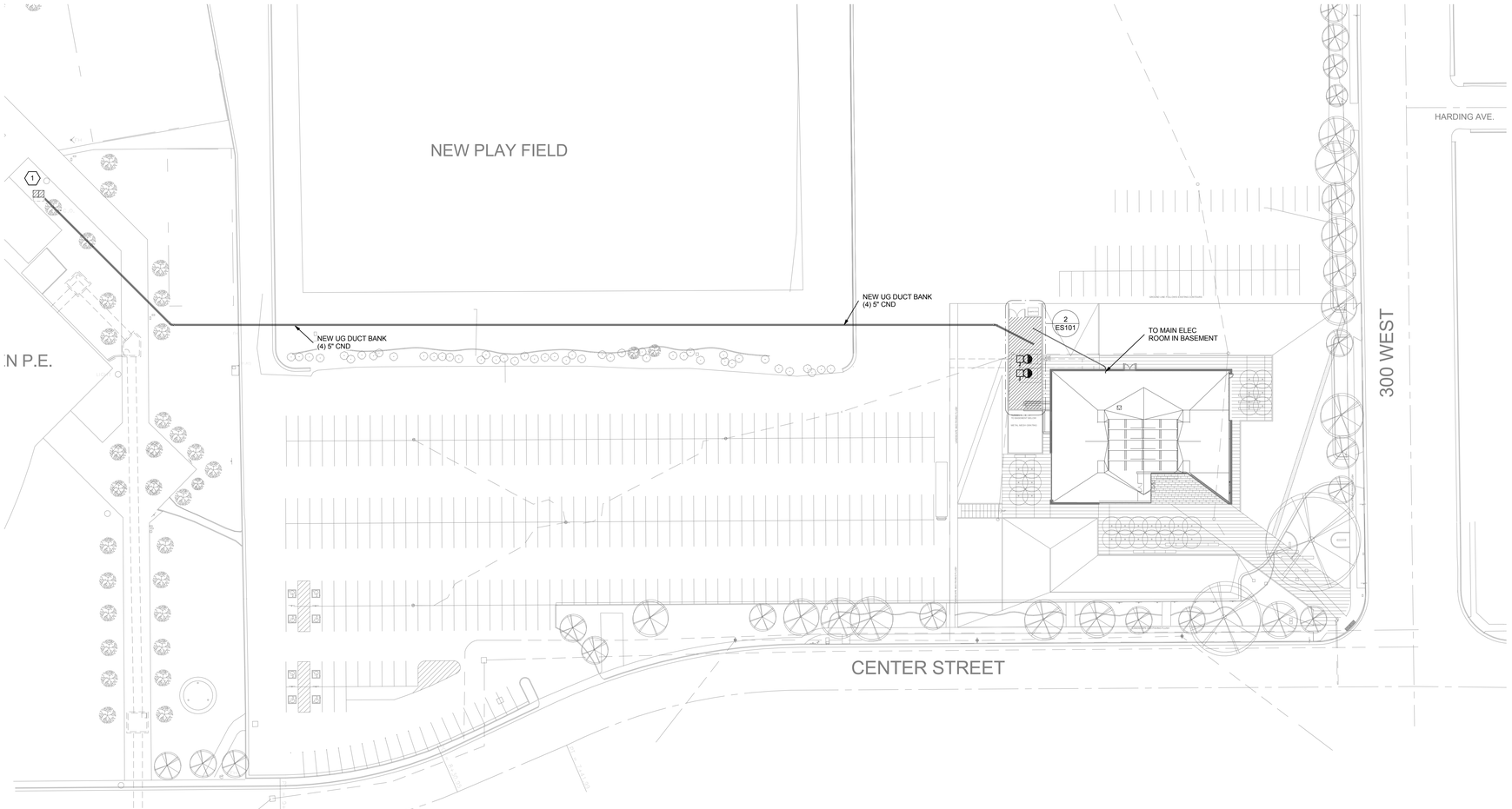


2 ES101 ENLARGED UTILITY YARD
3/32" = 1'-0"



1 ES101 SITE ELECTRICAL PLAN
1" = 40'-0"

GENERAL SHEET NOTES

SHEET KEYNOTES

1 EXISTING 3-WAY SWITCH TO BE REMOVED AND REPLACED WITH NEW 5-WAY VFI SWITCH. RELOCATE 3-WAY VFI SWITCH TO NEW BUILDING.

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SITE ELECTRICAL PLAN

ES101

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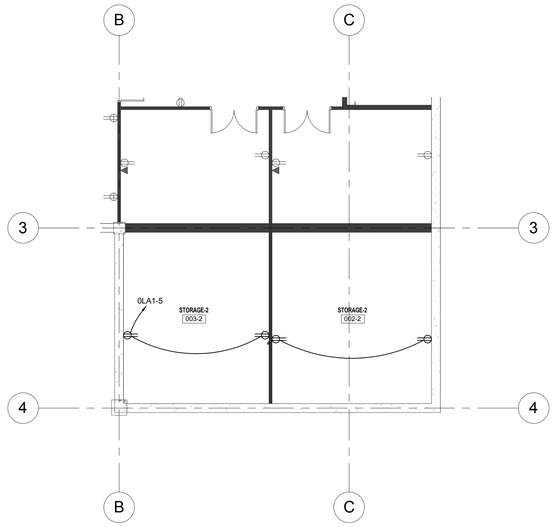
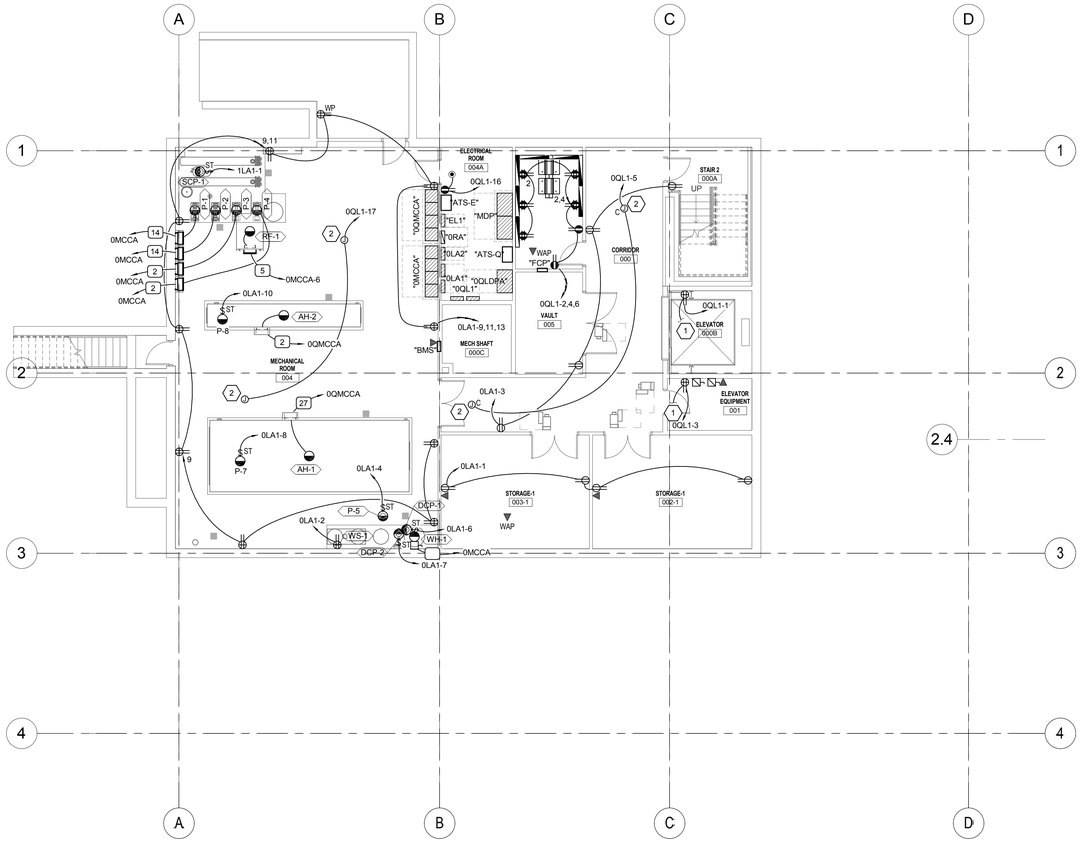


2 EP100 BASEMENT LEVEL POWER PLAN - BID ALTERNATE
1/8" = 1'-0"



1 EP100 BASEMENT POWER PLAN
1/8" = 1'-0"

GENERAL SHEET NOTES

SHEET KEYNOTES

1 ELEVATOR PIT/EQUIPMENT ROOM OUTLET CIRCUITED WITH ASSOCIATED PIT/ROOM LIGHT(S).

2 JUNCTION BOX FOR VAV CONTROL POWER. COORDINATE INSTALLATION LOCATIONS WITH MECHANICAL INSTALLERS. OBTAIN ARCHTIECT'S APPROVAL FOR INSTALLATION LOCATIONS IN GALLERY SPACES.

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BASEMENT POWER PLAN

EP100

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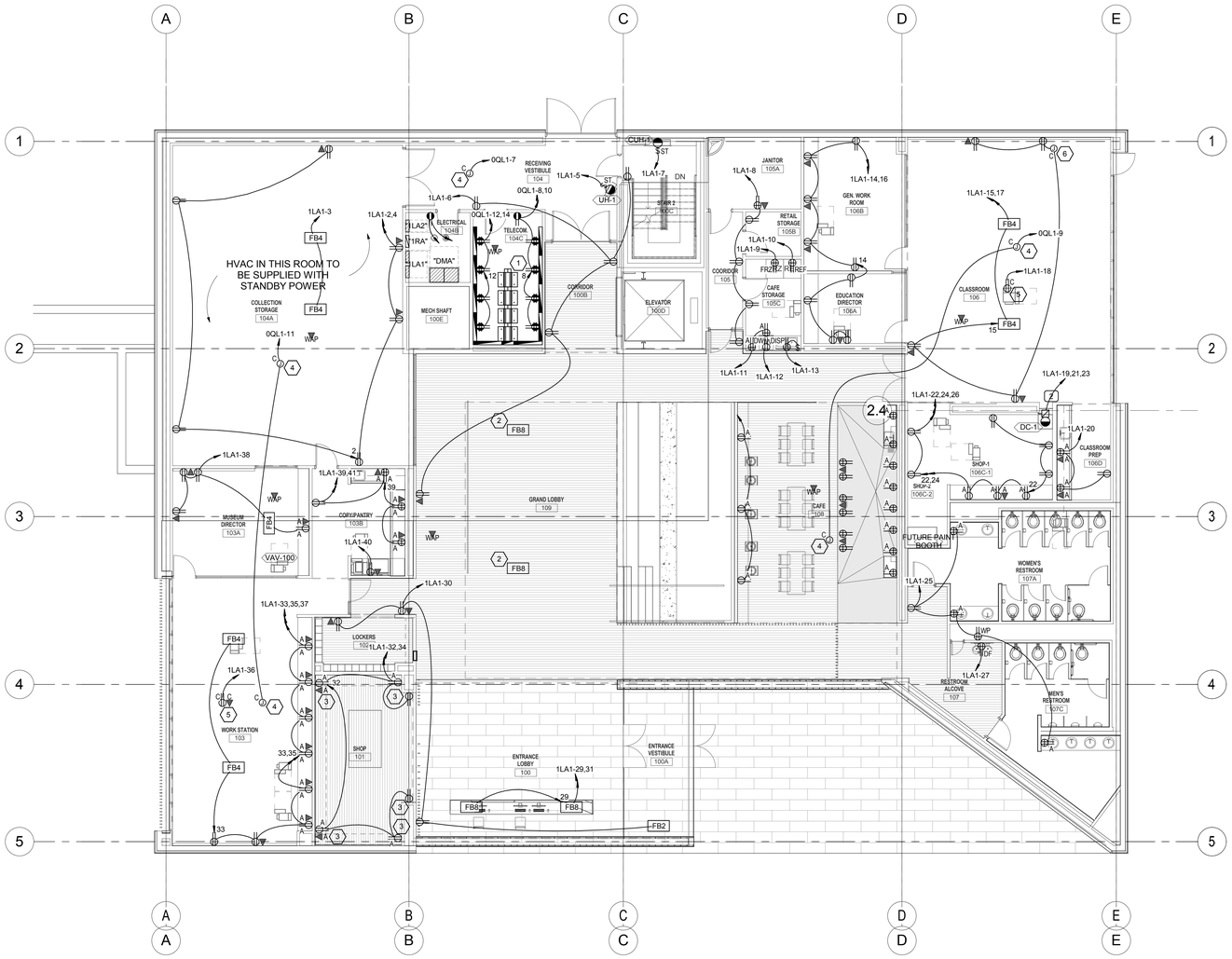

1 EP101 LEVEL 1 POWER PLAN
1/8" = 1'-0"

GENERAL SHEET NOTES

1 COORDINATE EXACT LOCATION OF EACH FLOORBOX WITH ARCHITECT PRIOR TO INSTALLATION.

SHEET KEYNOTES

1 TELECOMM ROOM ON THIS FLOOR SERVES FLOORS 1, 2 AND BASEMENT.

2 PROVIDE LAY-IN WOOD COVER. COORDINATE WITH ARCHITECTURAL DETAILS.

3 PROVIDE WHITE BRUSHED METAL COVERPLATES FOR ALL ELECTRICAL DEVICES IN THE SHOP.

4 JUNCTION BOX FOR VAV CONTROL POWER. COORDINATE INSTALLATION LOCATIONS WITH MECHANICAL INSTALLERS. OBTAIN ARCHTIECT'S APPROVAL FOR INSTALLATION LOCATIONS IN GALLERY SPACES.

5 FLUSH CEILING OUTLET FOR A/V PROJECTOR. COORDINATE EXACT LOCATION OF OUTLET WITH A/V INSTALLER.

6 PROVIDE ELECTRICAL CONNECTION TO MOTORIZED SCREEN WITH ASSOCIATED POWER AND CONTROL WIRING PER MANUFACTURER'S WRITTEN INSTRUCTIONS. MOUNT CONTROL SWITCH IN LOCATION APPROVED BY ARCHITECT/OWNER.

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SOUTHERN UTAH MUSEUM OF ART

351 WEST UNIVERSITY BOULEVARD
CEDER CITY, UT 84720

Division of Facilities Construction Management, Southern Utah University

DRAWN BY:	DLM
CHECKED BY:	DEW
OWNER PROJECT NO.:	
GSBS PROJECT NO.:	2010.084.00
ISSUED DATE:	5/16/2012

LEVEL 1 POWER PLAN

EP101

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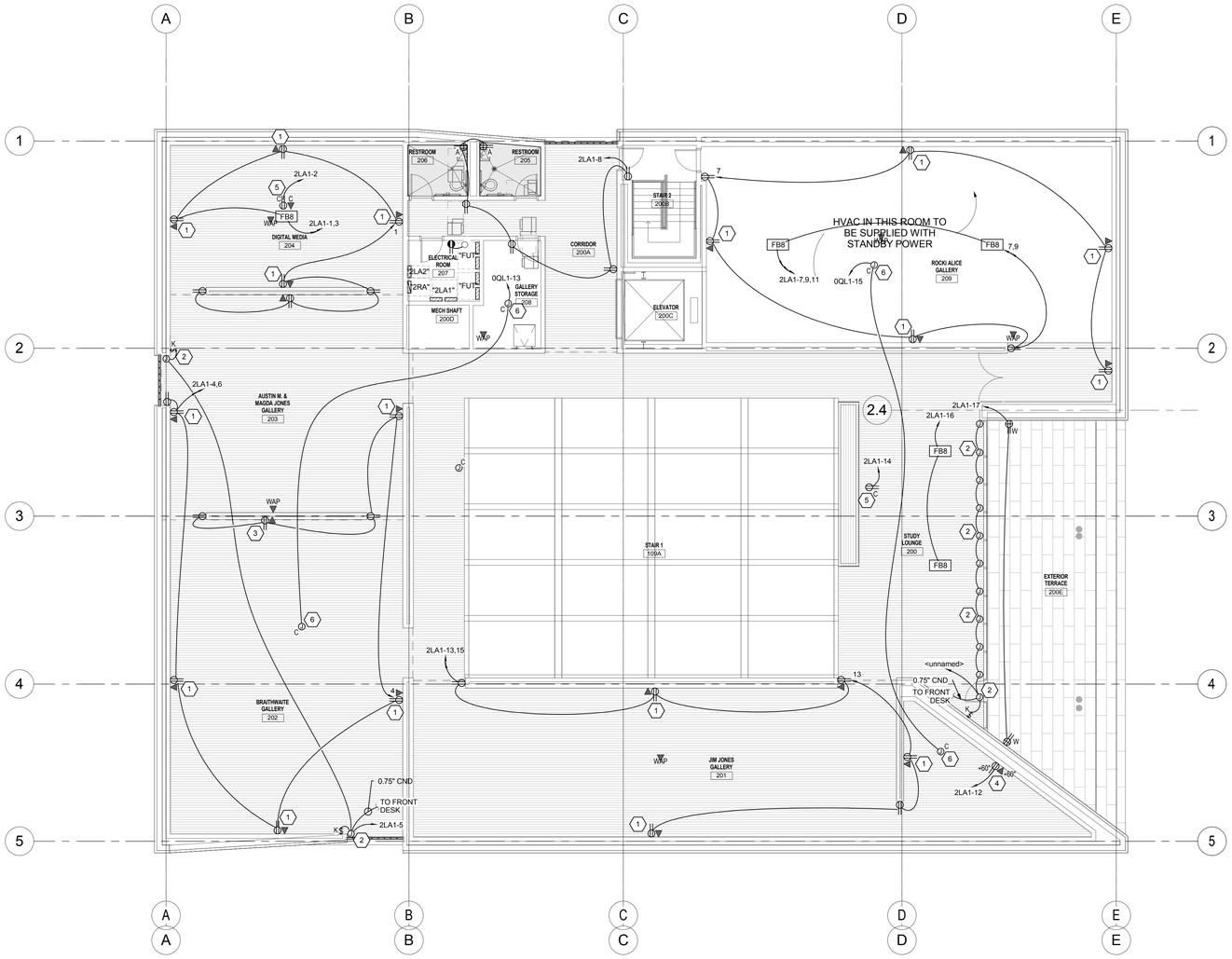

1 EP102 LEVEL 2 POWER PLAN
1/8" = 1'-0"

GENERAL SHEET NOTES

1 COORDINATE EXACT LOCATION OF EACH FLOORBOX WITH ARCHITECT PRIOR TO INSTALLATION.

SHEET KEYNOTES

1 INSTALL PERIMETER POWER AND DATA OUTLETS HORIZONTALLY, DOWN LOW IN WALL BASE.

2 PROVIDE ELECTRICAL CONNECTIONS TO MOTORIZED BLACKOUT MECHOSHADES. PROVIDE WIRING AND CONTROL PER MANUFACTURER'S WRITTEN INSTRUCTIONS. MOUNT SWITCH IN LOCATION AS DIRECTED BY ARCHITECT. INTERFACE WITH AV SYSTEM PER AV SYSTEM INSTALLER'S INSTRUCTIONS.

3 MOUNT DEVICES AT THE TOP OF THE WALL, FACING UPWARD. REFER TO ARCHTIECTURAL DETAILS.

4 PROVIDE OUTLET OR J-BOX FOR A/V MONITOR DEPENDING ON ACTUAL FIELD CONDITIONS. COORDINATE WITH ARCHITECTURAL DETAILS AND A/V INSTALLER.

5 FLUSH CEILING OUTLET FOR A/V PROJECTOR. COORDINATE EXACT LOCATION OF OUTLET WITH A/V INSTALLER.

6 JUNCTION BOX FOR VAV CONTROL POWER. COORDINATE INSTALLATION LOCATIONS WITH MECHANICAL INSTALLERS. OBTAIN ARCHTIECT'S APPROVAL FOR INSTALLATION LOCATIONS IN GALLERY SPACES.

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LEVEL 2 POWER PLAN

EP102

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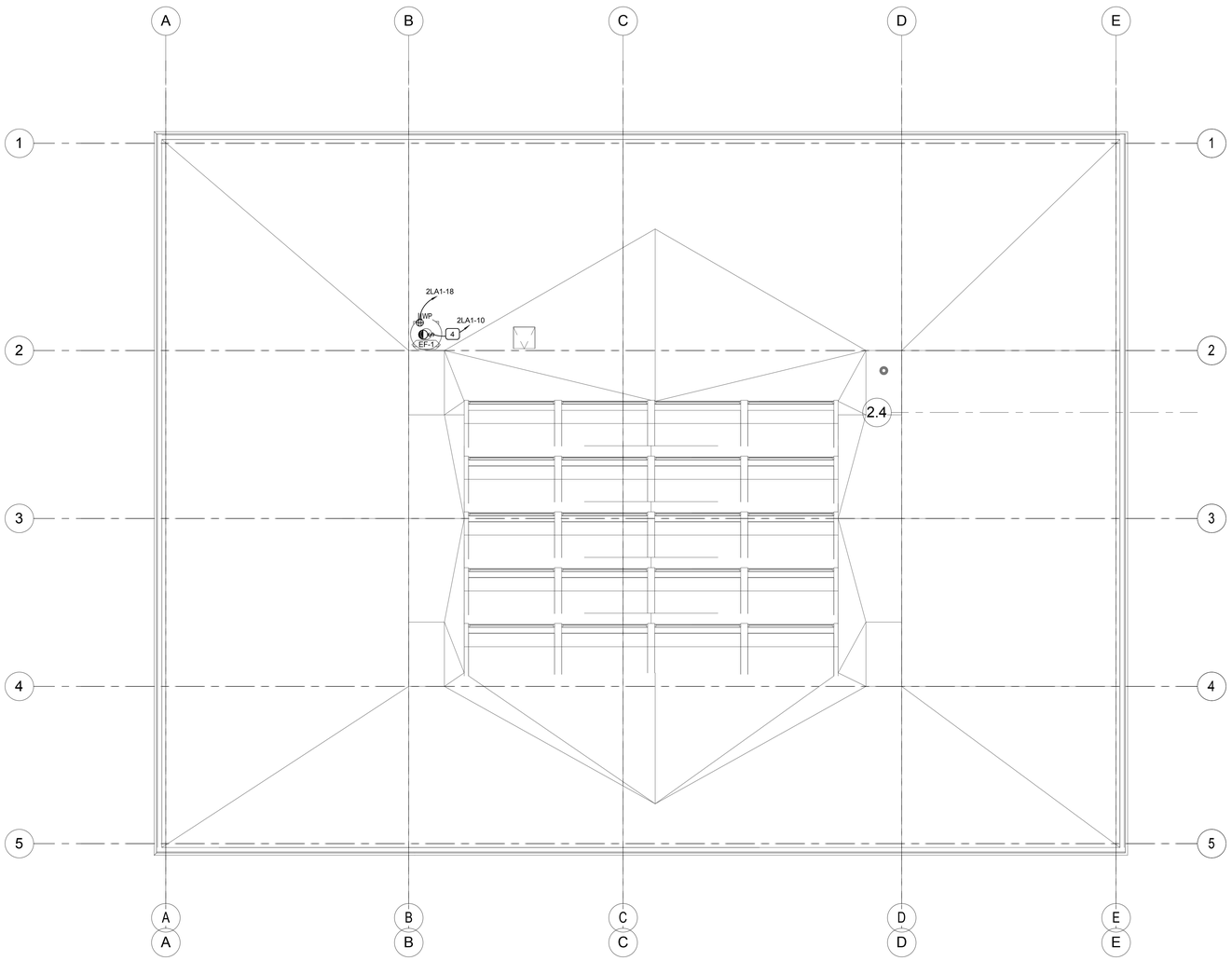

1 EP103 ROOF POWER PLAN
1/8" = 1'-0"

GENERAL SHEET NOTES

SHEET KEYNOTES

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ROOF POWER PLAN

EP103

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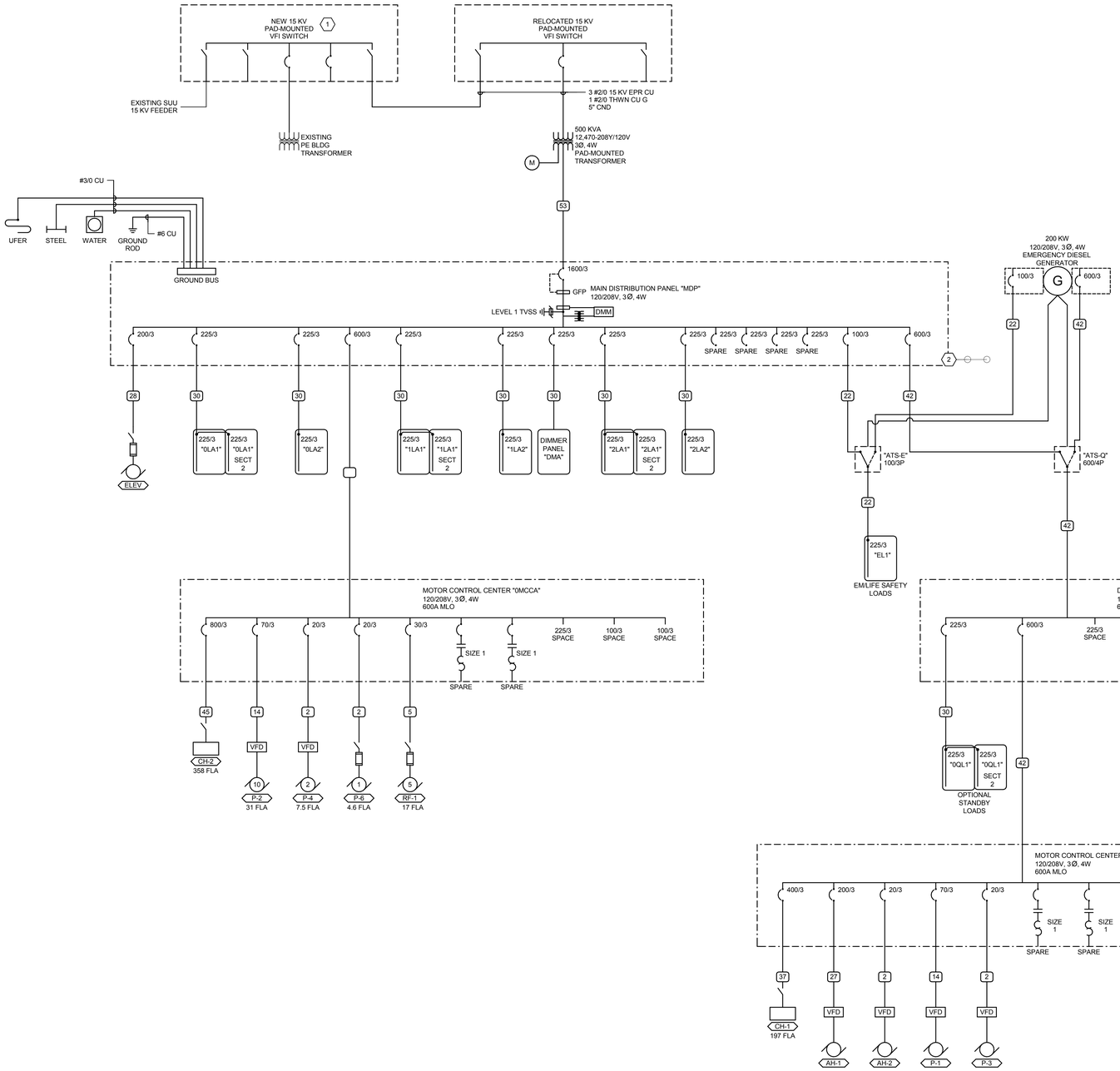

1 EP601 ONE-LINE DIAGRAM
SCALE: N.T.S.

GENERAL SHEET NOTES

1. PROVIDE NEMA 3R ENCLOSURES FOR EQUIPMENT LOCATED OUTDOORS. REFER TO PLANS FOR EQUIPMENT LOCATIONS.
2. REFER TO PLANS FOR CONSTRAINTS ON PHYSICAL DIMENSIONS AND CLEARANCE REQUIREMENTS OF EQUIPMENT. PROVIDE EQUIPMENT DIMENSIONS THAT FALL WITHIN THE CONSTRAINTS OF EACH SPECIFIC LOCATION.
3. ALL EQUIPMENT SHALL BE CONSTRUCTED AND BRACED FOR THE SEISMIC CONDITIONS OF THE PROJECT. REFER TO SPECIFICATIONS SECTION 16071 FOR REQUIREMENTS.

SHEET KEYNOTES

1. EXISTING 3-WAY SWITCH TO BE REMOVED AND RELOCATED FROM PE BUILDING TO NEW MUSEUM BUILDING. PROVIDE NEW 5-WAY SWITCH AT PE BUILDING.
2. 1.25" CND WITH CONTROL WIRING PER MANUFACTURER'S WRITTEN INSTRUCTIONS.

CONDUCTOR AND CONDUIT SCHEDULE

SCHEDULE NUMBER
SUBSCRIPT (NOTE 5)
(E.G.: 5 IG)

SYM	AMP	CONDUIT SIZE	CONDUCTOR (NOTE 1) QTY	SIZE	G	IG	SE	NOTES
1	20	.75	2	12	12	12	8	2
2	20	.75	3	12	12	12	8	2,3
3	20	.75	4	12	12	12	8	2,3
4	30	.75	2	10	10	10	8	2
5	30	.75	3	10	10	10	8	2
6	30	.75	4	10	10	10	8	2
7	40	1	2	8	10	8	6	2
8	40	1	3	8	10	8	6	2
9	40	1	4	8	10	8	6	2
10	55	1	2	6	10	8	4	2
11	55	1	3	6	10	8	4	2
12	55	1.25	4	6	10	8	4	2
13	70	1	2	4	8	4	2	2
14	70	1.25	3	4	8	4	2	2
15	70	1.25	4	4	8	4	2	2
16	85	1.25	2	3	8	3	2	2
17	85	1.25	3	3	8	3	2	2
18	85	1.25	4	3	8	3	2	2
19	95	1.25	3	2	8	2	2	2
20	95	1.50	4	2	8	2	2	2
21	130	1.50	3	1	6	2	2	2
22	130	1.50	4	1	6	2	2	2
23	150	2	3	1/0	6	2	1/0	2
24	150	2	4	1/0	6	2	1/0	2
25	175	2	3	2/0	6	2	2/0	2
26	175	2	4	2/0	6	2	2/0	2
27	200	2	3	3/0	6	2	2/0	2
28	200	2.50	4	3/0	6	2	2/0	2
29	230	2.50	3	4/0	4	2	2/0	2
30	230	2.50	4	4/0	4	2	2/0	2
31	255	2.50	3	250	4	1	2/0	2
32	255	2.50	4	250	4	1	2/0	2
33	310	3	3	350	3	1/0	3/0	2
34	310	3	4	350	3	1/0	3/0	2
35	380	3.50	3	500	3	3/0	3/0	2
36	380	4	4	500	3	3/0	3/0	2
37	400	2 EA 2	3	3/0	3	3/0	3/0	2
38	400	2 EA 2.50	4	3/0	3	3/0	3/0	2
39	510	2 EA 2.50	3	250	1	4/0	3/0	2
40	510	2 EA 3	4	250	1	4/0	3/0	2
41	620	2 EA 3	3	350	1/0	4/0	3/0	2,4
42	620	2 EA 3	4	350	1/0	4/0	3/0	2,4
43	780	2 EA 3.50	3	500	1/0	4/0	3/0	2,4
44	780	2 EA 4	4	500	1/0	4/0	3/0	2,4
45	855	3 EA 3	3	300	2/0	4/0	3/0	2,4
46	855	3 EA 3	4	300	2/0	4/0	3/0	2,4
47	1000	3 EA 3.50	3	400	2/0	4/0	3/0	4
48	1000	3 EA 3.50	4	400	2/0	4/0	3/0	4
49	1140	3 EA 4	3	500	3/0	4/0	3/0	4
50	1140	2 EA 4	4	500	3/0	4/0	3/0	4
51	1240	4 EA 3	3	350	3/0	4/0	3/0	4
52	1240	4 EA 3	4	350	3/0	4/0	3/0	4
53	1675	5 EA 3.50	4	400	4/0	4/0	4/0	4
54	2010	6 EA 3.50	4	400	250	250	250	4
55	2660	7 EA 4	4	500	350	350	350	4
56	3040	8 EA 4	4	500	500	500	500	4
57	4180	11 EA 4	4	500	500	500	500	4
58		5 EA 4						6
59		5						6
60		10 EA 4						6

CONDUCTOR AND CONDUIT SCHEDULE NOTES

1. CONDUCTORS SHOWN ARE SHOWN FOR EACH CONDUIT WITH MODIFICATIONS AS NOTED IN NOTE 6. ALL CONDUCTORS SHOWN ARE THWN UNLESS OTHERWISE NOTED.
2. PROVIDE EQUIPMENT GROUND CONDUCTORS PER TABLE 250-122 WHEN CIRCUIT BREAKERS ARE SIZED GREATER THAN AMPERE RATING SHOWN IN TABLE.
3. PROVIDE #10 NEUTRALS FOR MULTIWIRE BRANCH CIRCUITS SERVING COMPUTERS.
4. GROUND (G) CONDUCTOR MAY BE DELETED ON SERVICE ENTRANCE CONDUCTORS.
5. WHEN SYMBOL SUBSCRIPT INDICATES "IG", INCLUDE "IG" OR INSULATED GROUND CONDUCTOR SCHEDULED ALONG WITH GROUND OR EQUIPMENT GROUND CONDUCTOR. WHEN SYMBOL SUBSCRIPT INDICATES "SE", SUBSTITUTE "SE" CONDUCTOR FOR "G" CONDUCTOR SHOWN WHICH IS SIZED FOR THE GROUNDING OF THE SECONDARY OF THE SEPARATELY DERIVED SYSTEMS.
6. RACEWAY ONLY. CONDUCTORS PROVIDED BY UTILITY.

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ONE-LINE DIAGRAM

EP601

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EQUIPMENT SCHEDULE

MARK	QTY	ITEM DESCRIPTION	LOAD DATA							WIRE AND CONDUIT SIZE	OVERCURRENT PROTECTION			DISCONNECT			STARTER DATA														NOTES	MARK
			HP	kW	MCA	FLA	VOLT	PH	Hz		FURN BY	DEVICE	LOCATION	FURN BY	DEVICE	LOCATION	FURN BY	DEVICE	LOCATION	SIZE	SPEED	CTRL VOLT	SELECTOR SWITCH	PUSH BUTTON	PILOT LAMP	NORMALLY OPEN CONTACTS	NORMALLY CLOSED CONTACTS	PHASE FAILURE RELAY	SCHEMATIC REFERENCE	REMOTE CTRL		
AH-1		AIR HANDLER SUPPLY FAN	40			114	208	3	60	3 #3/0, #6 GR 2" CND	E	200A/3P CB	MCC	Q	VFD		Q	VFD														AH-1
AH-2		AIR HANDLER SUPPLY FAN	3			10.6	208	3	60	3 #12, #12 GR 0.75" CND	E	20A/3P CB	MCC	E																		AH-2
CH-1		AIR COOLED CHILLER			197		208	3	60	2 EA. 3 #3/0, #3 GR 2 EA. 2" CND	E	400A/3P CB	MCC	E	400A/3P/3F NF	ADJ. TO EQUIP.	Q															CH-1
CH-2		AIR COOLED CHILLER			358		208	3	60	3 EA. 3 #300, #2/0 GR 3 EA. 3" CND	E	800A/3P CB	MCC	E	600A/3P/3F NF	ADJ. TO EQUIP.	Q															CH-2
CUH-1		CABINET UNIT HEATER	1/60				120	1	60	2 #12, #12 GR 0.75" CND	E	20A/1P CB	PANEL	E	THERMAL SWITCH	ADJ. TO EQUIP.	Q															CUH-1
DC-1		DUST COLLECTOR	1.5			6.6	208	3	60	3 #12, #12 GR 0.75" CND	E	20A/3P CB	PANEL	E	30A/3P/3F FRN-R-12	ADJ. TO EQUIP.	Q															DC-1
DCP-1		DOMESTIC RECIRCULATION PUMP				2.3	120	1	60	2 #12, #12 GR 0.75" CND	E	20A/1P CB	PANEL	E	THERMAL SWITCH	ADJ. TO EQUIP.																DCP-1
DCP-2		DOMESTIC RECIRCULATION PUMP				4.7	120	1	60	2 #12, #12 GR 0.75" CND	E	20A/1P CB	PANEL	E	THERMAL SWITCH	ADJ. TO EQUIP.																DCP-2
EF-1		EXHAUST FAN	3/4			13.8	120	1	60	2 #10, #10 GR 0.75" CND	E	30A/1P CB	PANEL	E	THERMAL SWITCH	ADJ. TO EQUIP.																EF-1
P-1		PUMP	10			30.8	208	3	60	3 #4, #8 GR 1.25" CND	E	70A/3P CB	MCC	Q	VFD		Q	VFD														P-1
P-2		PUMP	10			30.8	208	3	60	3 #4, #8 GR 1.25" CND	E	70A/3P CB	MCC	Q	VFD		Q	VFD														P-2
P-3		PUMP	2			7.5	208	3	60	3 #12, #12 GR 0.75" CND	E	20A/3P CB	MCC	Q	VFD		Q	VFD														P-3
P-4		PUMP	2			7.5	208	3	60	3 #12, #12 GR 0.75" CND	E	20A/3P CB	MCC	Q	VFD		Q	VFD														P-4
P-5		PUMP	2/5			4.7	120	1	60	2 #12, #12 GR 0.75" CND	E	20A/1P CB	PANEL	E	THERMAL SWITCH	ADJ. TO EQUIP.																P-5
P-6		PUMP	1			4.6	208	3	60	3 #12, #12 GR 0.75" CND	E	20A/3P CB	MCC	E																		P-6
P-7		PUMP	2/5			4.7	120	1	60	2 #12, #12 GR 0.75" CND	E	20A/1P CB	PANEL	E	THERMAL SWITCH	ADJ. TO EQUIP.																P-7
P-8		PUMP	1/12			1.4	120	1	60	2 #12, #12 GR 0.75" CND	E	20A/1P CB	PANEL	E	THERMAL SWITCH	ADJ. TO EQUIP.																P-8
RF-1		RELIEF FAN	5			16.7	208	3	60	3 #10, #10 GR 0.75" CND	E	30A/3P CB	MCC	Q	VFD		Q	VFD														RF-1
SCP-1		STEAM CONENSATE PUMP	1/3			7.2	120	1	60	2 #12, #12 GR 0.75" CND	E	20A/1P CB	PANEL	E	THERMAL SWITCH	ADJ. TO EQUIP.	Q															SCP-1
UH-1		UNIT HEATER	1/25				120	1	60	2 #12, #12 GR 0.75" CND	E	20A/1P CB	PANEL	E	THERMAL SWITCH	ADJ. TO EQUIP.																UH-1
WH-1		ELECTRIC WATER HEATER					208	3	60		E			E																		WH-1

EQUIPMENT SCHEDULE KEY

E	DIVISION 16
Q	FURNISHED WITH THE EQUIPMENT
*	COORDINATE WITH THE DIVISION 15 TEMPERATURE CONTROL INSTALLER
**	AUTOMATIC CONTROL WIRING BY DIVISION 15

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EQUIPMENT SCHEDULE

EP602

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PANEL "0LA1"

VOLTS/PHASE/WIRE:	PANEL SIZE & TYPE:	MAIN SIZE AND TYPE:	LOCATION:	CABINET:	NOTES:
120/208V, 3 PH 4 WIRE	22" W x 6" D, BOLT-ON	225 AMPERE MAIN LUGS	ELECTRICAL ROOM 004A	SURFACE	

ACCESSORIES: PANEL DIRECTORY, IDENTIFICATION, GROUNDING BAR

CKT NO	AMP	POLE	DESCRIPTION	A		B		C		DESCRIPTION	POLE	AMP	CKT NO
1	20	1	CO: STORAGE 002 & 003	0.7	0.5					PWR: WS-1 MECHANICAL ROOM 004	1	20	2
3	20	1	CO: CORRIDOR 000			0.7	0.6			PWR: P-5 MECHANICAL ROOM 004	1	20	4
5	20	1	CO: STORAGE 002 & 003 (ADD-ALT)					0.7	0.3	PWR: DCP-1 MECHANICAL ROOM 004	1	20	6
7	20	1	PWR: DCP-2 MECHANICAL ROOM 004	0.6	0.6					PWR: P-7 MECHANICAL ROOM 004	1	20	8
9	20	1	CO MECHANICAL ROOM 004			0.5	0.2			PWR: P-8 MECHANICAL ROOM 004	1	20	10
11	20	1	CO MECHANICAL ROOM 004					0.5	0.0	SPARE	1	20	12
13	20	1	CO MECHANICAL ROOM 004	0.7	0.0					SPARE	1	20	14
15	20	1	SPARE			0.0	0.0			SPARE	1	20	16
17	20	1	SPARE					0.0	0.0	SPARE	1	20	18
19	20	1	SPARE	0.0	0.0					SPARE	1	20	20
21	20	1	SPARE			0.0	0.0			SPARE	1	20	22
23	20	1	SPARE					0.0	0.0	SPARE	1	20	24
25	20	1	SPARE	0.0	0.0					SPARE	1	20	26
27	20	1	SPARE			0.0	0.0			SPARE	1	20	28
29	20	1	SPARE					0.0	0.0	SPARE	1	20	30
31	20	1	SPARE	0.0	0.0					SPARE	1	20	32
33	20	1	SPARE			0.0	0.0			SPARE	1	20	34
35	20	1	SPARE					0.0	0.0	SPARE	1	20	36
37	20	1	SPARE	0.0	0.0					SPARE	1	20	38
39	20	1	SPARE			0.0	0.0			SPARE	1	20	40
41	20	1	SPARE					0.0	0.0	SPARE	1	20	42
43	20	1	SPARE	0.0	0.0					SPARE	1	20	44
45	20	1	SPARE			0.0	0.0			SPARE	1	20	46
47	20	1	SPARE					0.0	0.0	SPARE	1	20	48
49	20	1	SPARE	0.0	0.0					SPARE	1	20	50
51	20	1	SPARE			0.0	0.0			SPARE	1	20	52
53	20	1	SPARE					0.0	0.0	SPARE	1	20	54
55	20	1	SPARE	0.0	0.0					SPARE	1	20	56
57	20	1	SPARE			0.0	0.0			SPARE	1	20	58
59	20	1	SPARE					0.0	0.0	SPARE	1	20	60
61	20	1	SPARE	0.0	0.0					SPARE	1	20	62
63	20	1	SPARE			0.0	0.0			SPARE	1	20	64
65	20	1	SPARE					0.0	0.0	SPARE	1	20	66
67	20	1	SPARE	0.0	0.0					SPARE	1	20	68
69	20	1	SPARE			0.0	0.0			SPARE	1	20	70
71	20	1	SPARE					0.0	0.0	SPARE	1	20	72
73	20	1	SPARE	0.0	0.0					SPARE	1	20	74
75	20	1	SPARE			0.0	0.0			SPARE	1	20	76
77	20	1	SPARE					0.0	0.0	SPARE	1	20	78
79	20	1	SPARE	0.0	0.0					SPARE	1	20	80
81	20	1	SPARE			0.0	0.0			SPARE	1	20	82
83	20	1	SPARE					0.0	0.0	SPARE	1	20	84
TOTALS:			CONNECTED kVA PER PHASE	**3**		**2**		**2**		CONNECTED TOTAL kVA		**7**	
			CONNECTED AMPS PER PHASE	**27**		**18**		**13**		CONNECTED AVERAGE AMPS PER PHASE		**19**	

NEC DIVERSIFIED LOAD CALCULATIONS

LIGHTING		ALL OTHER LOADS @100%=	**2.8 kVA**	DIVERSIFIED TOTAL kVA	**7**
RECEPTACLES	**4kVA @100% = 4kVA**	25% OF LARGEST MOTOR=		AVERAGE AMPS PER	**19**

Notes:

PANEL "EL1"

VOLTS/PHASE/WIRE:	PANEL SIZE & TYPE:	MAIN SIZE AND TYPE:	LOCATION:	CABINET:	NOTES:
120/208V, 3 PH 4 WIRE	22" W x 6" D, BOLT-ON	225 AMPERE MAIN LUGS	ELECTRICAL ROOM 004A	SURFACE	

ACCESSORIES: PANEL DIRECTORY, IDENTIFICATION, GROUNDING BAR

CKT NO	AMP	POLE	DESCRIPTION	A		B		C		DESCRIPTION	POLE	AMP	CKT NO
1	0	1	SPARE	0.0	0.0					SPARE	1	0	2
3	0	1	SPARE			0.0	0.0			SPARE	1	0	4
5	20	1	SPARE					0.0	0.0	SPARE	1	20	6
7	20	1	SPARE	0.0	0.0					SPARE	1	20	8
9	20	1	SPARE			0.0	0.0			SPARE	1	20	10
11	20	1	SPARE					0.0	0.0	SPARE	1	20	12
13	20	1	SPARE	0.0	0.0					SPARE	1	20	14
15	20	1	SPARE			0.0	0.0			SPARE	1	20	16
17	20	1	SPARE					0.0	0.0	SPARE	1	20	18
19	20	1	SPARE	0.0	0.0					SPARE	1	20	20
21	20	1	SPARE			0.0	0.0			SPARE	1	20	22
23	20	1	SPARE					0.0	0.0	SPARE	1	20	24
25	20	1	SPARE	0.0	0.0					SPARE	1	20	26
27	20	1	SPARE			0.0	0.0			SPARE	1	20	28
29	20	1	SPARE					0.0	0.0	SPARE	1	20	30
31	20	1	SPARE	0.0	0.0					SPARE	1	20	32
33	20	1	SPARE			0.0	0.0			SPARE	1	20	34
35	20	1	SPARE					0.0	0.0	SPARE	1	20	36
37	20	1	SPARE	0.0	0.0					SPARE	1	20	38
39	20	1	SPARE			0.0	0.0			SPARE	1	20	40
41	20	1	SPARE					0.0	0.0	SPARE	1	20	42
TOTALS:			CONNECTED kVA PER PHASE	**0**		**0**		**0**		CONNECTED TOTAL kVA		**0**	
			CONNECTED AMPS PER PHASE	**0**		**0**		**0**		CONNECTED AVERAGE AMPS PER PHASE		**0**	

NEC DIVERSIFIED LOAD CALCULATIONS

LIGHTING		ALL OTHER LOADS @100%=		DIVERSIFIED TOTAL kVA	**0**
RECEPTACLES		25% OF LARGEST MOTOR=		AVERAGE AMPS PER	**0**

Notes:

PANEL "0LA2"

VOLTS/PHASE/WIRE:	PANEL SIZE & TYPE:	MAIN SIZE AND TYPE:	LOCATION:	CABINET:	NOTES:
120/208V, 3 PH 4 WIRE	22" W x 6" D, BOLT-ON	225 AMPERE MAIN LUGS	ELECTRICAL ROOM 004A	SURFACE	

ACCESSORIES: PANEL DIRECTORY, IDENTIFICATION, GROUNDING BAR

CKT NO	AMP	POLE	DESCRIPTION	A		B		C		DESCRIPTION	POLE	AMP	CKT NO
1	0	1	SPARE	0.0	0.0					SPARE	1	0	2
3	0	1	SPARE			0.0	0.0			SPARE	1	0	4
5	0	1	SPARE					0.0	0.0	SPARE	1	0	6
7	0	1	SPARE	0.0	0.0					SPARE	1	0	8
9	0	1	SPARE			0.0	0.0			SPARE	1	0	10
11	20	1	SPARE					0.0	0.0	SPARE	1	20	12
13	20	1	SPARE	0.0	0.0					SPARE	1	20	14
15	20	1	SPARE			0.0	0.0			SPARE	1	20	16
17	20	1	SPARE					0.0	0.0	SPARE	1	20	18
19	20	1	SPARE	0.0	0.0					SPARE	1	20	20
21	20	1	SPARE			0.0	0.0			SPARE	1	20	22
23	20	1	SPARE					0.0	0.0	SPARE	1	20	24
25	20	1	SPARE	0.0	0.0					SPARE	1	20	26
27	20	1	SPARE			0.0	0.0			SPARE	1	20	28
29	20	1	SPARE					0.0	0.0	SPARE	1	20	30
31	20	1	SPARE	0.0	0.0					SPARE	1	20	32
33	20	1	SPARE			0.0	0.0			SPARE	1	20	34
35	20	1	SPARE					0.0	0.0	SPARE	1	20	36
37	20	1	SPARE	0.0	0.0					SPARE	1	20	38
39	20	1	SPARE			0.0	0.0			SPARE	1	20	40
41	20	1	SPARE					0.0	0.0	SPARE	1	20	42
TOTALS:			CONNECTED kVA PER PHASE	**0**		**0**		**0**		CONNECTED TOTAL kVA		**0**	
			CONNECTED AMPS PER PHASE	**0**		**0**		**0**		CONNECTED AVERAGE AMPS PER PHASE		**0**	

NEC DIVERSIFIED LOAD CALCULATIONS

LIGHTING		ALL OTHER LOADS @100%=		DIVERSIFIED TOTAL kVA	**0**
RECEPTACLES		25% OF LARGEST MOTOR=		AVERAGE AMPS PER	**0**

Notes:

PANEL "0QL1"

VOLTS/PHASE/WIRE:	PANEL SIZE & TYPE:	MAIN SIZE AND TYPE:	LOCATION:	CABINET:	NOTES:
120/208V, 3 PH 4 WIRE	22" W x 6" D, BOLT-ON	225 AMPERE MAIN LUGS	ELECTRICAL ROOM 004A	SURFACE	

ACCESSORIES: PANEL DIRECTORY, IDENTIFICATION, GROUNDING BAR

CKT NO	AMP	POLE	DESCRIPTION	A		B		C		DESCRIPTION	POLE	AMP	CKT NO
1	20	1	PWR: ELEV. PIT	0.2	0.7					CO: SERVER ROOM	1	20	2
3	20	1	PWR: ELEVATOR EQUIPMENT 001			0.2	0.7			CO: SERVER ROOM	1	20	4
5	20	1	PWR: MECH VAV'S CORRIDOR 000					1.0	0.7	CO: SERVER ROOM	1	20	6
7	20	1	PWR: VAV RECEIVING VESTIBULE 104	0.5	0.7					CO: TELECOM. 104C	1	20	8
9	20	1	PWR: VAV CLASSROOM 106, CAFE 108			1.0	0.9			CO: TELECOM. 104C	1	20	10
11	20	1	PWR: VAV 104A, 103					1.0	0.7	CO: TELECOM. 104C	1	20	12
13	20	1	PWR: VAV 202, 208	1.0	0.7					CO: TELECOM. 104C	1	20	14
15	20	1	PWR: VAV 201, 209			1.0	0.5			CO: ELECTRICAL ROOMS	1	20	16
17	20	1	PWR: VAV MECHANICAL ROOM 004					1.0	0.0	SPARE	1	20	18
19	20	1	SPARE	0.0	0.0					SPARE	1	20	20
21	20	1	SPARE			0.0	0.0			SPARE	1	20	22
23	20	1	SPARE					0.0	0.0	SPARE	1	20	24
25	20	1	SPARE	0.0	0.0					SPARE	1	20	26
27	20	1	SPARE			0.0	0.0			SPARE	1	20	28
29	20	1	SPARE					0.0	0.0	SPARE	1	20	30
31	20	1	SPARE	0.0	0.0					SPARE	1	20	32
33	20	1	SPARE			0.0	0.0			SPARE	1	20	34
35	20	1	SPARE					0.0	0.0	SPARE	1	20	36
37	20	1	SPARE	0.0	0.0					SPARE	1	20	38
39	20	1	SPARE			0.0	0.0			SPARE	1	20	40
41	20	1	SPARE					0.0	0.0	SPARE	1	20	42
43	20	1	SPARE	0.0	0.0					SPARE	1	20	44
45	20	1	SPARE			0.0	0.0			SPARE	1	20	46
47	20	1	SPARE					0.0	0.0	SPARE	1	20	48
49	20	1	SPARE	0.0	0.0					SPARE	1	20	50
51	20	1	SPARE			0.0	0.0			SPARE	1	20	52
53	20	1	SPARE					0.0	0.0	SPARE	1	20	54
55	20	1	SPARE	0.0	0.0					SPARE	1	20	56
57	20	1	SPARE			0.0	0.0			SPARE	1	20	58
59	20	1	SPARE					0.0	0.0	SPARE	1	20	60
61	20	1	SPARE	0.0	0.0					SPARE	1	20	62
63	20	1	SPARE			0.0	0.0			SPARE	1	20	64
65	20	1	SPARE					0.0	0.0	SPARE	1	20	66
67	20	1	SPARE	0.0	0.0					SPARE	1	20	68
69	20	1	SPARE			0.0	0.0			SPARE	1	20	70
71	20	1	SPARE					0.0	0.0	SPARE	1	20	72
73	20	1	SPARE	0.0	0.0					SPARE	1	20	74
75	20	1	SPARE			0.0	0.0			SPARE	1	20	76
77	20	1	SPARE					0.0	0.0	SPARE	1	20	78
79	20	1	SPARE	0.0	0.0					SPARE	1	20	80
81	20	1	SPARE			0.0	0.0			SPARE	1	20	82
83	20	1	SPARE					0.0	0.0	SPARE	1	20	84
TOTALS:			CONNECTED kVA PER PHASE	**4**		**4**		**4**		CONNECTED TOTAL kVA		**13**	
			CONNECTED AMPS PER PHASE	**32**		**37**		**38**		CONNECTED AVERAGE AMPS PER PHASE		**35**	

NEC DIVERSIFIED LOAD CALCULATIONS

LIGHTING	**0kVA @ 125% = 0kVA**	ALL OTHER LOADS @100%=	**6.5 kVA**	DIVERSIFIED TOTAL kVA	**13**
RECEPTACLES	**6kVA @100% = 6kVA**	25% OF LARGEST MOTOR=		AVERAGE AMPS PER	**35**

Notes:

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Division of Facilities Construction Management, Southern Utah University

DRAWN BY:	DLM
CHECKED BY:	DEW
OWNER PROJECT NO.:	
GSBS PROJECT NO.:	2010.084.00
ISSUED DATE:	5/16/2012

PANEL SCHEDULES

EP603

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PANEL "1LA1"

VOLTS/PHASE/WIRE:	PANEL SIZE & TYPE:	MAIN SIZE AND TYPE:	LOCATION:	CABINET:	NOTES:
120/208V, 3 PH 4 WIRE	22" W x 6" D, BOLT-ON	225 AMPERE MAIN LUGS	ELECTRICAL 104B	SURFACE	

ACCESSORIES: PANEL DIRECTORY, IDENTIFICATION, GROUNDING BAR

CKT NO	AMP	POLE	DESCRIPTION	A		B		C		DESCRIPTION	POLE	AMP	CKT NO
1	20	1	PWR: SCP-1 MECHANICAL ROOM 004	0.8	0.5					CO COLLECTION STORAGE 104A	1	20	2
3	20	1	CO COLLECTION STORAGE 104A			0.0	0.5			CO COLLECTION STORAGE 104A	1	20	4
5	20	1	PWR: UH-1 RECEIVING VESTIBULE 104					0.2	0.9	CO ROOM 100B, 104, 100C, 109	1	20	6
7	20	1	PWR: CUH-1 STAIR 2 100C	0.2	0.9					CO ROOM 105, 105B, 105C, 105A, 109	1	20	8
9	20	1	CO: FREEZER CAFE STORAGE 105C			0.8	0.8			CO: REFRIDGERATOR CAFE STORAGE 105C	1	20	10
11	20	1	CO CAFE STORAGE 105C					0.4	1.1	PWR: DISHWASHER CAFE STORAGE 105C	1	20	12
13	20	1	PWR: DISPOSAL CAFE STORAGE 105C	0.8	0.7					CO EDUCATION DIRECTOR 106A	1	20	14
15	20	1	CO CLASSROOM 106			1.1	0.9			CO GEN. WORK ROOM 106B	1	20	16
17	20	1	CO CLASSROOM 106					1.0	0.9	PWR: PROJECTOR CLASSROOM 106	1	20	18
19	20	3	PWR: DC-1 SHOP-1 106C-1	0.8	0.5					CO CLASSROOM PREP 106D	1	20	20
21	--	--	--			0.8	0.5			CO SHOP-1 106C-1	1	20	22
23	--	--	--					0.8	0.5	CO SHOP-1 106C-1	1	20	24
25	20	1	CO ROOM 107A, 107	0.9	0.4					CO SHOP-1 106C-1	1	20	26
27	20	1	PWR: DRINKING FOUNTAIN RESTROOM ALCOVE			0.7	0.5			CO CAFE 108	1	20	28
29	20	1	CO ENTRANCE LOBBY 100					0.5	0.5	CO ROOM 100, 102, 109, 100A	1	20	30
31	20	1	CO ENTRANCE LOBBY 100	0.5	0.5					CO SHOP 101	1	20	32
33	20	1	CO WORK STATION 103			1.0	0.5			CO SHOP 101	1	20	34
35	20	1	CO WORK STATION 103					0.7	0.9	PWR: PROJECTOR WORK STATION 103	1	20	36
37	20	1	CO WORK STATION 103	0.7	0.7					CO MUSEUM DIRECTOR 103A	1	20	38
39	20	1	CO COPY/PANTRY 103B			0.4	1.0			PWR: COPY MACHINE COPY/PANTRY 103B	1	20	40
41	20	1	CO COPY/PANTRY 103B					0.4	0.0	SPARE	1	20	42
43	20	1	SPARE	0.0	0.0					SPARE	1	20	44
45	20	1	SPARE			0.0	0.0			SPARE	1	20	46
47	20	1	SPARE					0.0	0.0	SPARE	1	20	48
49	20	1	SPARE	0.0	0.0					SPARE	1	20	50
51	20	1	SPARE			0.0	0.0			SPARE	1	20	52
53	20	1	SPARE					0.0	0.0	SPARE	1	20	54
55	20	1	SPARE	0.0	0.0					SPARE	1	20	56
57	20	1	SPARE			0.0	0.0			SPARE	1	20	58
59	20	1	SPARE					0.0	0.0	SPARE	1	20	60
61	20	1	SPARE	0.0	0.0					SPARE	1	20	62
63	20	1	SPARE			0.0	0.0			SPARE	1	20	64
65	20	1	SPARE					0.0	0.0	SPARE	1	20	66
67	20	1	SPARE	0.0	0.0					SPARE	1	20	68
69	20	1	SPARE			0.0	0.0			SPARE	1	20	70
71	20	1	SPARE					0.0	0.0	SPARE	1	20	72
73	20	1	SPARE	0.0	0.0					SPARE	1	20	74
75	20	1	SPARE			0.0	0.0			SPARE	1	20	76
77	20	1	SPARE					0.0	0.0	SPARE	1	20	78
79	20	1	SPARE	0.0	0.0					SPARE	1	20	80
81	20	1	SPARE			0.0	0.0			SPARE	1	20	82
83	20	1	SPARE					0.0	0.0	SPARE	1	20	84
TOTALS:			CONNECTED kVA PER PHASE	**9**		**10**		**9**		CONNECTED TOTAL kVA		**28**	
			CONNECTED AMPS PER PHASE	**77**		**81**		**74**		CONNECTED AVERAGE AMPS PER PHASE		**77**	

NEC DIVERSIFIED LOAD CALCULATIONS

LIGHTING	ALL OTHER LOADS @100%=	**9.6 kVA**	DIVERSIFIED TOTAL kVA	**24**
RECEPTACLES **18kVA @78% = 14kVA**	25% OF LARGEST MOTOR=		AVERAGE AMPS PER	**66**

Notes:

PANEL "2LA1"

VOLTS/PHASE/WIRE:	PANEL SIZE & TYPE:	MAIN SIZE AND TYPE:	LOCATION:	CABINET:	NOTES:
120/208V, 3 PH 4 WIRE	22" W x 6" D, BOLT-ON	225 AMPERE MAIN LUGS		SURFACE	

ACCESSORIES: PANEL DIRECTORY, IDENTIFICATION, GROUNDING BAR

CKT NO	AMP	POLE	DESCRIPTION	A		B		C		DESCRIPTION	POLE	AMP	CKT NO
1	20	1	CO: DIGITAL MEDIA 204	0.7	0.9					PWR: PROJECTOR DIGITAL MEDIA 204	1	20	2
3	20	1	CO: DIGITAL MEDIA 204			0.5	1.4			CO: 202, 203	1	20	4
5	20	1	PWR: MECHOSHADES 202, 203					0.4	0.9	CO: 202, 203	1	20	6
7	20	1	CO: ROCKI ALICE GALLERY 209	0.5	1.1					CO	1	20	8
9	20	1	CO: ROCKI ALICE GALLERY 209			0.7	1.8			PWR: EF-1	1	30	10
11	20	1	CO: ROCKI ALICE GALLERY 209					0.0	0.5	CO	1	20	12
13	20	1	CO: JIM JONES GALLERY 201	0.5	0.9					PWR: PROJECTOR STUDY LOUNGE	1	20	14
15	20	1	CO: JIM JONES GALLERY 201			0.5	1.0			CO: STUDY LOUNGE	1	20	16
17	20	1	CO					0.4	0.2	CO: ROOF NEAR EF-1	1	20	18
19													20
21							0.0			SPARE	1	20	22
23	20	1	SPARE					0.0	0.0	SPARE	1	20	24
25	20	1	SPARE	0.0	0.0					SPARE	1	20	26
27	20	1	SPARE			0.0	0.0			SPARE	1	20	28
29	20	1	SPARE					0.0	0.0	SPARE	1	20	30
31	20	1	SPARE	0.0	0.0					SPARE	1	20	32
33	20	1	SPARE			0.0	0.0			SPARE	1	20	34
35	20	1	SPARE					0.0	0.0	SPARE	1	20	36
37	20	1	SPARE	0.0	0.0					SPARE	1	20	38
39	20	1	SPARE			0.0	0.0			SPARE	1	20	40
41	20	1	SPARE					0.0	0.0	SPARE	1	20	42
43	20	1	SPARE	0.0	0.0					SPARE	1	20	44
45	20	1	SPARE			0.0	0.0			SPARE	1	20	46
47	20	1	SPARE					0.0	0.0	SPARE	1	20	48
49	20	1	SPARE	0.0	0.0					SPARE	1	20	50
51	20	1	SPARE			0.0	0.0			SPARE	1	20	52
53	20	1	SPARE					0.0	0.0	SPARE	1	20	54
55	20	1	SPARE	0.0	0.0					SPARE	1	20	56
57	20	1	SPARE			0.0	0.0			SPARE	1	20	58
59	20	1	SPARE					0.0	0.0	SPARE	1	20	60
61	20	1	SPARE	0.0	0.0					SPARE	1	20	62
63	20	1	SPARE			0.0	0.0			SPARE	1	20	64
65	20	1	SPARE					0.0	0.0	SPARE	1	20	66
67	20	1	SPARE	0.0	0.0					SPARE	1	20	68
69	20	1	SPARE			0.0	0.0			SPARE	1	20	70
71	20	1	SPARE					0.0	0.0	SPARE	1	20	72
73	20	1	SPARE	0.0	0.0					SPARE	1	20	74
75	20	1	SPARE			0.0	0.0			SPARE	1	20	76
77	20	1	SPARE					0.0	0.0	SPARE	1	20	78
79	20	1	SPARE	0.0	0.0					SPARE	1	20	80
81	20	1	SPARE			0.0	0.0			SPARE	1	20	82
83	20	1	SPARE					0.0	0.0	SPARE	1	20	84
TOTALS:			CONNECTED kVA PER PHASE	**5**		**6**		**2**		CONNECTED TOTAL kVA		**13**	
			CONNECTED AMPS PER PHASE	**42**		**53**		**19**		CONNECTED AVERAGE AMPS PER PHASE		**36**	

NEC DIVERSIFIED LOAD CALCULATIONS

LIGHTING	ALL OTHER LOADS @100%=	**4.9 kVA**	DIVERSIFIED TOTAL kVA	**13**
RECEPTACLES **8kVA @100% = 8kVA**	25% OF LARGEST MOTOR=		AVERAGE AMPS PER	**36**

Notes:

PANEL "1LA2"

VOLTS/PHASE/WIRE:	PANEL SIZE & TYPE:	MAIN SIZE AND TYPE:	LOCATION:	CABINET:	NOTES:
120/208V, 3 PH 4 WIRE	22" W x 6" D, BOLT-ON	225 AMPERE MAIN LUGS	ELECTRICAL 104B	SURFACE	

ACCESSORIES: PANEL DIRECTORY, IDENTIFICATION, GROUNDING BAR

CKT NO	AMP	POLE	DESCRIPTION	A		B		C		DESCRIPTION	POLE	AMP	CKT NO
1	0	1	SPARE	0.0	0.0					SPARE	1	0	2
3	0	1	SPARE			0.0	0.0			SPARE	1	0	4
5	0	1	SPARE					0.0	0.0	SPARE	1	0	6
7	0	1	SPARE	0.0	0.0					SPARE	1	0	8
9	0	1	SPARE			0.0	0.0			SPARE	1	0	10
11	0	1	SPARE					0.0	0.0	SPARE	1	0	12
13	20	1	SPARE	0.0	0.0					SPARE	1	20	14
15	20	1	SPARE			0.0	0.0			SPARE	1	20	16
17	20	1	SPARE					0.0	0.0	SPARE	1	20	18
19	20	1	SPARE	0.0	0.0					SPARE	1	20	20
21	20	1	SPARE			0.0	0.0			SPARE	1	20	22
23	20	1	SPARE					0.0	0.0	SPARE	1	20	24
25	20	1	SPARE	0.0	0.0					SPARE	1	20	26
27	20	1	SPARE			0.0	0.0			SPARE	1	20	28
29	20	1	SPARE					0.0	0.0	SPARE	1	20	30
31	20	1	SPARE	0.0	0.0					SPARE	1	20	32
33	20	1	SPARE			0.0	0.0			SPARE	1	20	34
35	20	1	SPARE					0.0	0.0	SPARE	1	20	36
37	20	1	SPARE	0.0	0.0					SPARE	1	20	38
39	20	1	SPARE			0.0	0.0			SPARE	1	20	40
41	20	1	SPARE					0.0	0.0	SPARE	1	20	42
TOTALS:			CONNECTED kVA PER PHASE	**0**		**0**		**0**		CONNECTED TOTAL kVA		**0**	
			CONNECTED AMPS PER PHASE	**0**		**0**		**0**		CONNECTED AVERAGE AMPS PER PHASE		**0**	

NEC DIVERSIFIED LOAD CALCULATIONS

LIGHTING	ALL OTHER LOADS @100%=		DIVERSIFIED TOTAL kVA	**0**
RECEPTACLES	25% OF LARGEST MOTOR=		AVERAGE AMPS PER	**0**

Notes:

PANEL "2LA2"

VOLTS/PHASE/WIRE:	PANEL SIZE & TYPE:	MAIN SIZE AND TYPE:	LOCATION:	CABINET:	NOTES:
120/208V, 3 PH 4 WIRE	22" W x 6" D, BOLT-ON	225 AMPERE MAIN LUGS		SURFACE	

ACCESSORIES: PANEL DIRECTORY, IDENTIFICATION, GROUNDING BAR

CKT NO	AMP	POLE	DESCRIPTION	A		B		C		DESCRIPTION	POLE	AMP	CKT NO
1	0	1	SPARE	0.0	0.0					SPARE	1	0	2
3	0	1	SPARE			0.0	0.0			SPARE	1	0	4
5	0	1	SPARE					0.0	0.0	SPARE	1	0	6
7	0	1	SPARE	0.0	0.0					SPARE	1	0	8
9	0	1	SPARE			0.0	0.0			SPARE	1	0	10
11	20	1	SPARE					0.0	0.0	SPARE	1	20	12
13	20	1	SPARE	0.0	0.0					SPARE	1	20	14
15	20	1	SPARE			0.0	0.0			SPARE	1	20	16
17	20	1	SPARE					0.0	0.0	SPARE	1	20	18
19	20	1	SPARE	0.0	0.0					SPARE	1	20	20
21	20	1	SPARE			0.0	0.0			SPARE	1	20	22
23	20	1	SPARE					0.0	0.0	SPARE	1	20	24
25	20	1	SPARE	0.0	0.0					SPARE	1	20	26
27	20	1	SPARE			0.0	0.0			SPARE	1	20	28
29	20	1	SPARE					0.0	0.0	SPARE	1	20	30
31	20	1	SPARE	0.0	0.0					SPARE	1	20	32
33	20	1	SPARE			0.0	0.0			SPARE	1	20	34
35	20	1	SPARE					0.0	0.0	SPARE	1	20	36
37	20	1	SPARE	0.0	0.0					SPARE	1	20	38
39	20	1	SPARE			0.0	0.0			SPARE	1	20	40
41	20	1	SPARE					0.0	0.0	SPARE	1	20	42
TOTALS:			CONNECTED kVA PER PHASE	**0**		**0**		**0**		CONNECTED TOTAL kVA		**0**	
			CONNECTED AMPS PER PHASE	**0**		**0**		**0**		CONNECTED AVERAGE AMPS PER PHASE		**0**	

NEC DIVERSIFIED LOAD CALCULATIONS

LIGHTING	ALL OTHER LOADS @100%=		DIVERSIFIED TOTAL kVA	**0**
RECEPTACLES	25% OF LARGEST MOTOR=		AVERAGE AMPS PER	**0**

Notes:

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GSBS PROJECT NO.:	2010.084.00
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PANEL SCHEDULES

EP604

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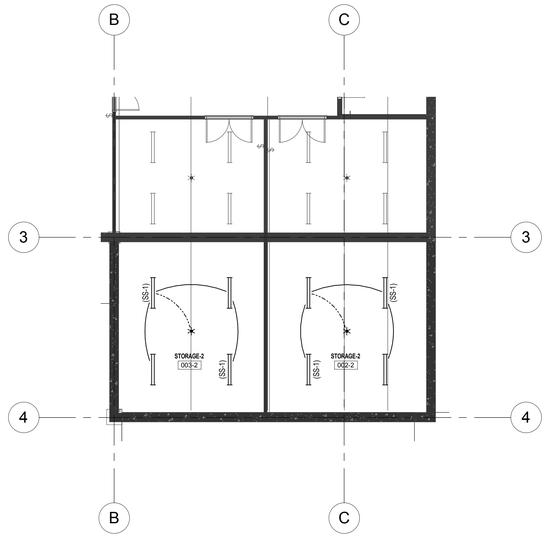
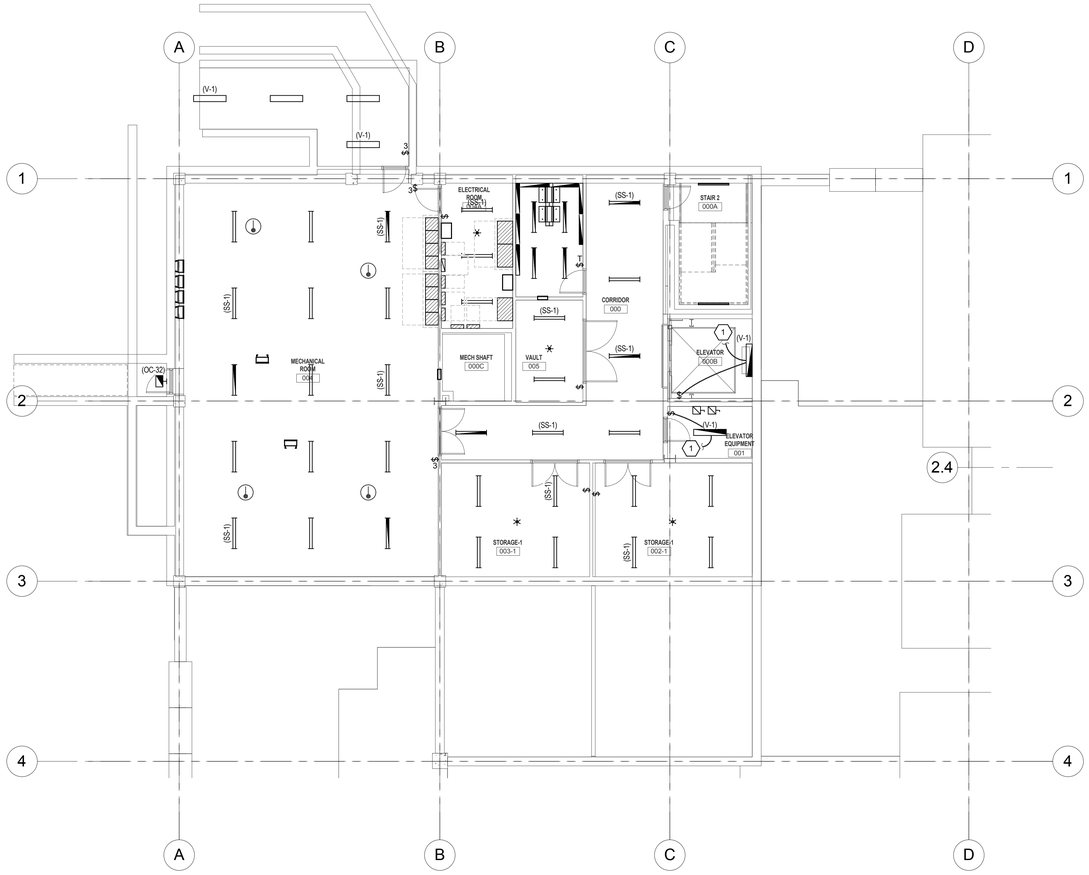


2 EL100 BASEMENT LEVEL LIGHTING PLAN - BID ALTERNATE
1/8" = 1'-0"



1 EL100 BASEMENT LIGHTING PLAN
1/8" = 1'-0"

GENERAL SHEET NOTES

SHEET KEYNOTES

1 ELEVATOR PIT/EQUIPMENT ROOM LIGHT CIRCUITED WITH ASSOCIATED PIT/ROOM OUTLET(S).

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BASEMENT LIGHTING PLAN

EL100

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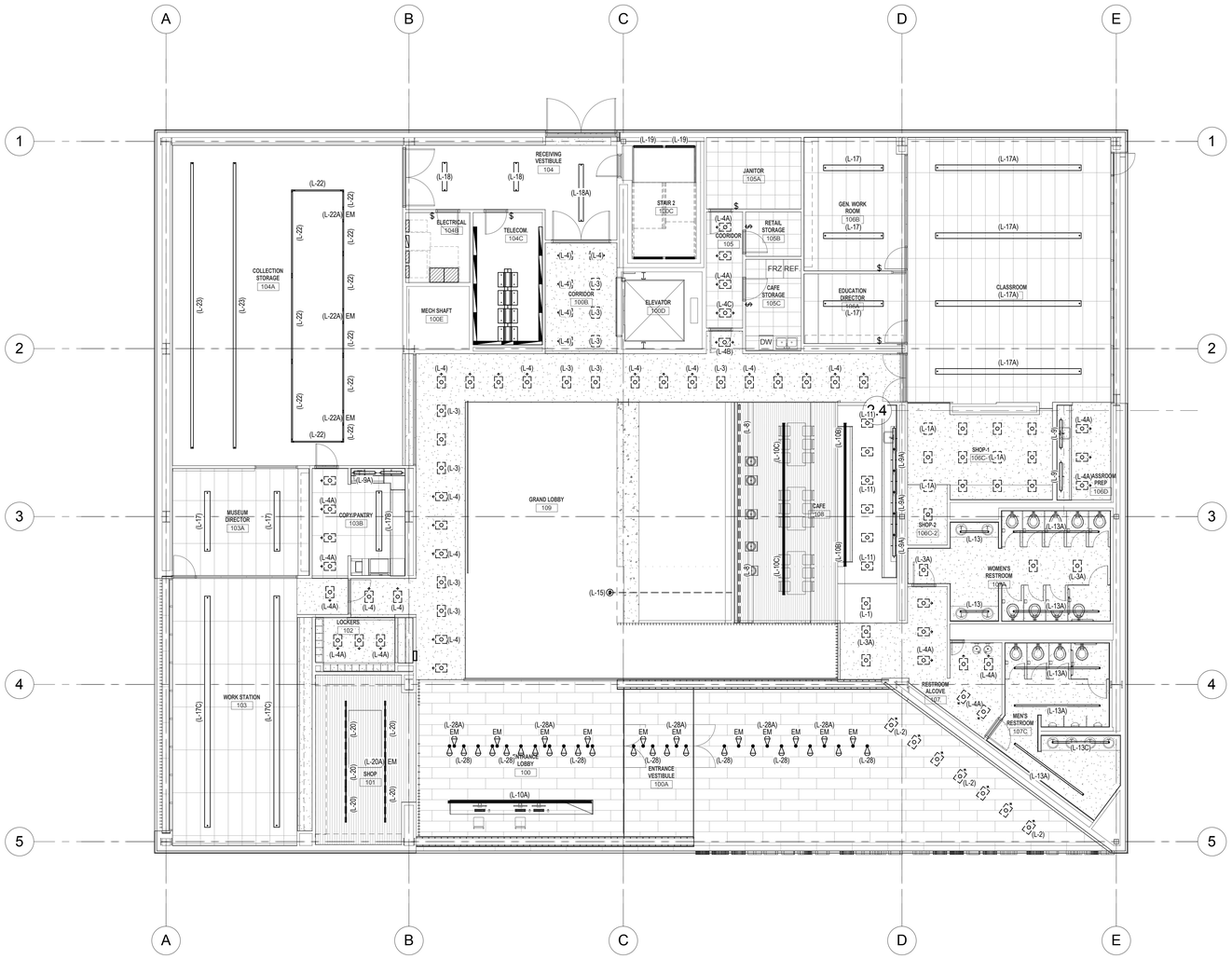

1 EL101 LEVEL 1 LIGHTING PLAN
1/8" = 1'-0"

GENERAL SHEET NOTES

SHEET KEYNOTES

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LEVEL 1 LIGHTING PLAN

EL101

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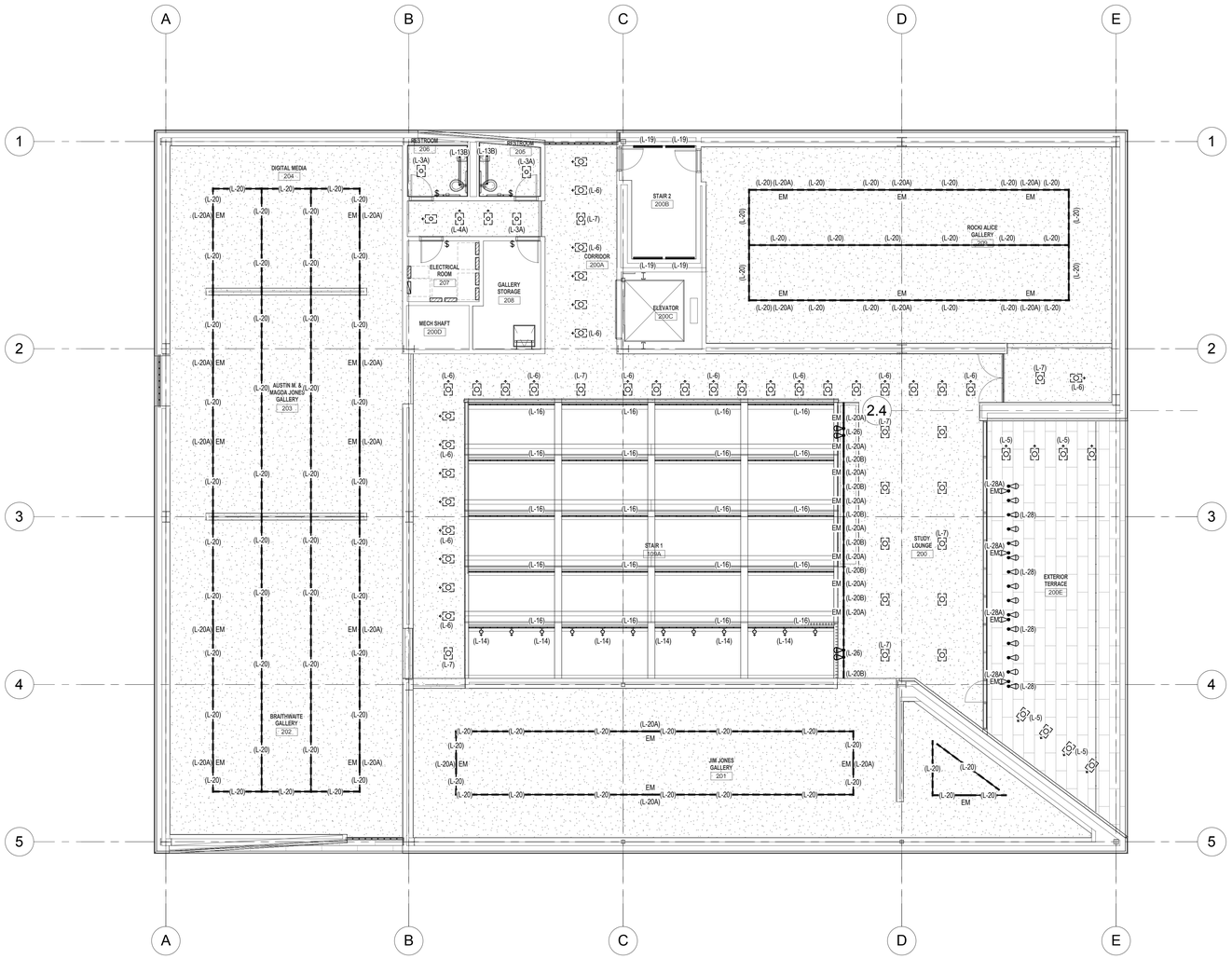

1 EL102 LEVEL 2 LIGHTING PLAN
1/8" = 1'-0"

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GENERAL SHEET NOTES

SHEET KEYNOTES

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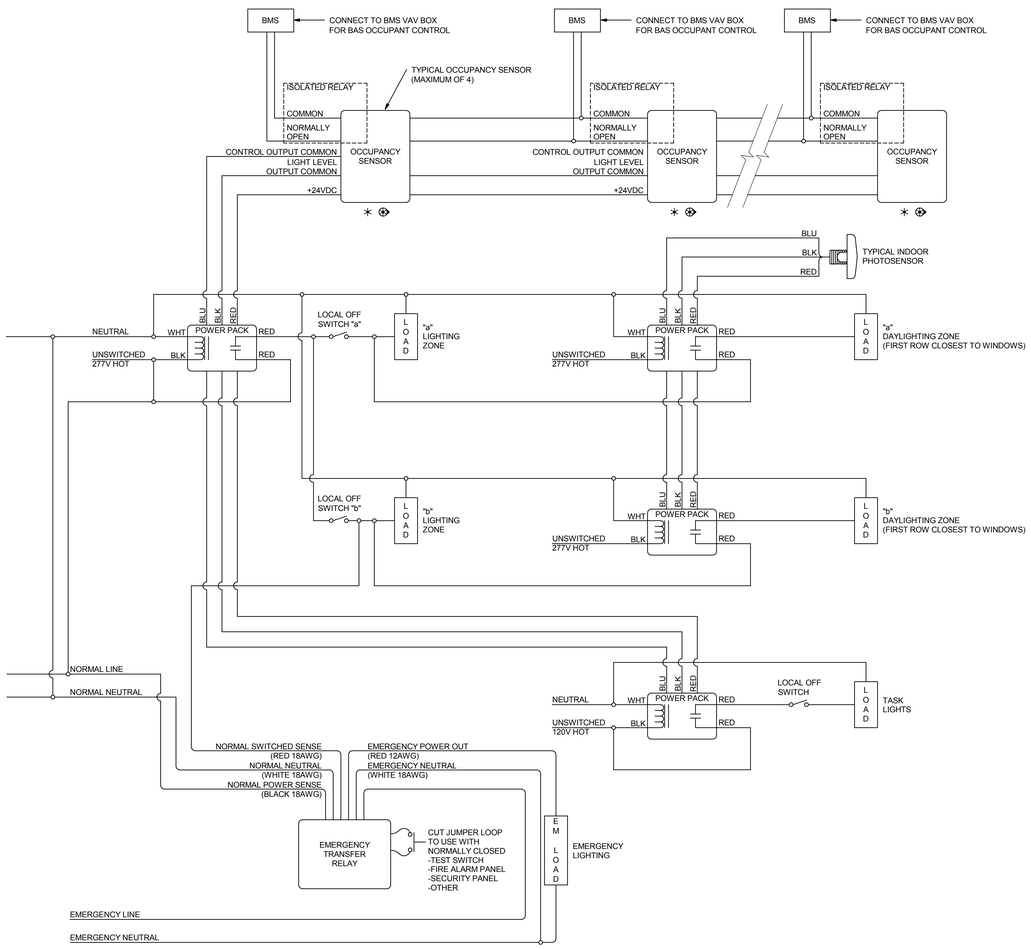
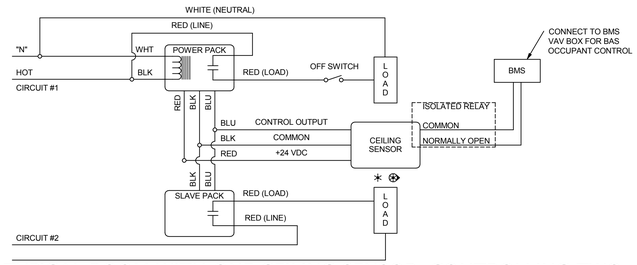
LEVEL 2 LIGHTING PLAN

EL102



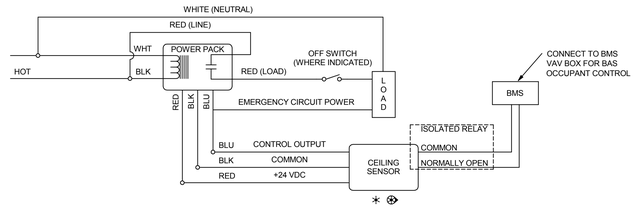
1 EL501 TYPICAL ROOM WITH MULTIPLE SENSORS, MULTIPLE CIRCUITS AND SWITCH LOADS, WITH DAYLIGHTING CONTROL & EMERGENCY TRANSFER RELAY

SCALE: N.T.S.



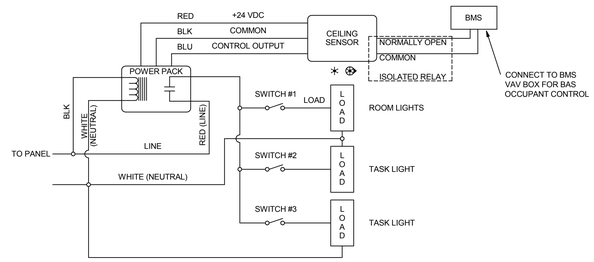
6 EL501 TYPICAL ROOM WITH ONE CEILING SENSOR, CONTROLLING TWO CIRCUITS

SCALE: N.T.S.



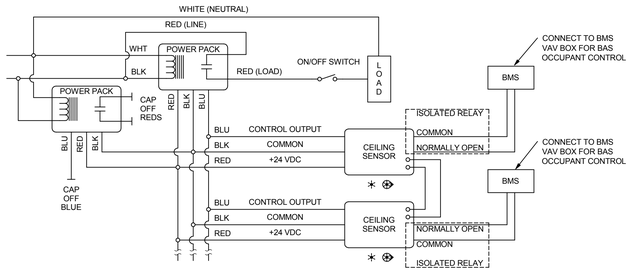
5 EL501 TYPICAL ROOM WITH ONE CEILING SENSOR, WITH OR WITHOUT WALL SWITCH

SCALE: N.T.S.



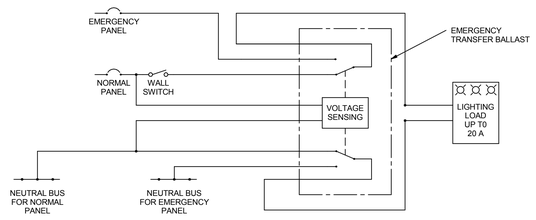
4 EL501 TYPICAL ROOM WITH ONE CEILING SENSOR, ONE CIRCUIT AND MULTIPLE SWITCHED LOADS

SCALE: N.T.S.



3 EL501 TYPICAL ROOM WITH MULTIPLE CEILING SENSORS

SCALE: N.T.S.



NORMAL OPERATION
LIGHTING LOAD CONTROLLED BY LOCAL SWITCHING MEANS.

EMERGENCY OPERATION
LIGHTING LOAD IS INDEPENDENT OF LOCAL SWITCHING MEANS.

2 EL501 EMERGENCY LIGHTING TRANSFER DEVICE DETAIL

SCALE: N.T.S.

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LIGHTING CONTROL DETAILS

EL501

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LIGHTING FIXTURE SCHEDULE (BASEMENT / BACK OF HOUSE)

NOTE TO BIDDERS: COMPLY WITH THE LIGHTING SECTIONS OF THE SPECIFICATIONS.
REFER TO SPECIFICATIONS FOR IMPORTANT TECHNICAL REQUIREMENTS FOR LIGHTING FIXTURES, BALLASTS, AND LAMPS. THE CATALOG NUMBERS LISTED BELOW HAVE BEEN CAREFULLY PREPARED TO ASSIST BIDDERS IN SELECTING PRODUCTS TO ACHIEVE THE DESIGN CONCEPT, HOWEVER, PRIOR TO BIDDING, EACH MANUFACTURER SHALL COMPARE THE CATALOG NUMBERS SHOWN WITH THE DESCRIPTION AND REQUIREMENTS ON THE DRAWINGS, AND SHALL NOTIFY THE ARCHITECT/ENGINEER OF ANY DISCREPANCIES. SPECIFICALLY INCLUDED IN THIS EVALUATION SHALL BE THE VERIFYING OF PROPER MOUNTING KITS OR ACCESSORIES TO FACILITATE INSTALLATION AS SHOWN AT EACH LOCATION ON THE DRAWINGS. NO ALLOWANCE OR REDRESS WILL BE ALLOWED FOR DISCREPANCIES THAT WERE NOT REPORTED TO THE ARCHITECT/ENGINEER IN TIME FOR CORRECTION OR CLARIFICATION BEFORE THE BID. THE REPORTING OF ANY AMBIGUITY IS THE RESPONSIBILITY OF THE BIDDER. PROVIDE UNIT PRICES AND FIXTURE BRAND SELECTED FOR ADD/DELETE CHANGES FOR EACH FIXTURE TYPES SHOWN WITHIN 48 BUSINESS HOURS OF THE BID DATE. FAILURE TO COMPLY WITH THIS REQUIREMENT MAY DISQUALIFY THE PRODUCTS AND EMPOWER THE ENGINEER TO DETERMINE FAIR VALUE FOR FIXTURE AND INSTALLATION CHANGES, WITHOUT FURTHER INPUT FROM THE CONTRACTOR OR INSTALLER. SUBMITTAL PACKAGE SHALL INCLUDE LAMP MANUFACTURER AND CATALOG NUMBER ON EACH FIXTURE SHEET. ON ALL PENDANT MOUNTED FIXTURES, PROVIDE A SECOND SET OF PENDANTS, OF A DIFFERENT LENGTH, AS DIRECTED BY THE ARCHITECT/ENGINEER, PROVIDED AND INSTALLED AT NO ADDITIONAL CHARGE. ALL FIXTURES SHALL BE APPROVED BY UL OR ANOTHER ACCEPTABLE TESTING LAB FOR THE PURPOSE INTENDED AND WITH THE LAMP AND BALLAST PROPOSED. CONTRACTOR ALLOWANCE PRICES ARE ACCURATE WHEN THIS JOB WAS SPECIFIED, CONTRACTOR AND ELECTRICAL DISTRIBUTOR SHALL VERIFY THIS ALLOWANCE AND REPORT ANY PROBLEMS TO THE ENGINEER BEFORE THE BID. ALLOWANCE PRICE MAY OR MAY NOT INCLUDE LAMP(S) OR FREIGHT AS NOTED, AND DO NOT INCLUDE ANY TAXES. UNIVERSAL VOLTAGE (120/277)
BALLASTS REQUIRED UNLESS NOTED OTHERWISE. DIMENSION SEQUENCE = (LENGTH X WIDTH X DEPTH) IN INCHES.

LINEAR FLUORESCENT FIXTURES MARKED "HIGH EFFICIENCY" USE 32 WATT 3100 INITIAL LUMEN LAMPS WITH .77 BALLAST FACTOR ELECTRONIC BALLAST.
LAMPS: OSI "XPS" SERIES, PHILIPS "ADV" SERIES, GE "T8 ULTRA HIGH LUMEN",
BALLASTS; ADVANCE "IOP" SERIES, OSI " PROSTART PSX", GE ULTRASTART SERIES.

SYMBOL	MARK	FIXTURE CHARACTERISTICS BODY / AIR / MOUNTING / DOOR LENS/LOUVER/REFLECTOR/OTHER	LAMP	WATTS	VOLTS	MANUFACTURER	CATALOG NUMBER
	CM	STEEL LINEAR FIXTURES: LENGTHS AND CONFIGURATIONS SHOWN ON THE DRAWINGS; LAMPS FOUR FOOT WHERE POSSIBLE; PROGRAM START ELECTRONIC BALLASTS; T8 LAMPS; INTERNAL CONCEALED FASTENERS; COLOR AS NOTED AND/OR APPROVED BY ARCHITECT; ORIENT FIXTURE ACCORDING TO ARCHITECTS/ ENGINEER'S INSTRUCTIONS. SWIVEL STEM MOUNT UNLESS NOTED OTHERWISE. INSTALL LEVEL AND STRAIGHT WITH INVISIBLE SPLICES. PROVIDE ALL REQUIRED HANGERS, SPLICERS, END CAPS, JOINTS, FEEDS, ETC., FOR A COMPLETE INSTALLATION, WHITE LOUVER FINISH.					
	CM-1	6"X 6 1/2" PROFILE, WALL MOUNT, OPEN UP, K19 LENS DOWN, INDIRECT/DIRECT, 4' MODULE. HIGH EFFICIENCY	2-F32T8 RE841	50W/4'	277/120V	LITECONTROL MARK NEORAY PRUDENTIAL PMC LIGHTOLIER LSI NATIONAL	W-ID-66N24T8K19-CWM-PST8-120/277 66W-DI-232T8-ET8PRS-UNIV-K19-MW-4' 88/2T8-S22-4-120/277PSEB P 60 D5 M5 2 04 T8 PROG START P19A UNIVOLT S66-DIA-W-2/OCT-4-K19-WHT-EBSPEC-12/27 SQ624BWL-UNV-PSX 99-UD-W-X-K19-1/1-32SSOR(.77BF)-MWS-UE S66-IDID-232OCT-A-W-UEB-CBA
	E9	EXIT SIGN: METAL HOUSING; CEILING MOUNT, SEE DRAWINGS; ARROWS PER PLANS; LED LAMPS;EMERGENCY BATTERY PACK WITH 10 YEAR PRO-RATA WARRANTY; SELF-TESTING; EDGE LIGHTED CLEAR LENS; GREEN LETTERS ON CLEAR BACKGROUND. MUST MEET NFPA ILLUMINATION STANDARDS. UNITS SHOWN ARE CEILING MOUNT MODELS. CONTRACTOR TO PROVIDE MATCHING WALL MOUNTED UNITS WHERE REQUIRED.					
	E9-1	SINGLE FACE:	LED	20W	120/277V	DUAL-LITE EELP LITHONIA ISOLITE HIGH-LITES CHLORIDE EXITRONIX LIGHTOLIER	CVER1GNE EDG 1 GC W EM LRP W 1 GC XX 120/277 ELN EDGL-EM-S-S-G-BK (BLACK HOUSING) LEDBPRXF0-2-GC-SX STELX-X-1-SC-X 902-WB-GC-SCBA LEEC1GCX
	E9-2	DUAL FACE:	LED	20W	120/277V	DUAL-LITE EELP LITHONIA ISOLITE HIGH-LITES CHLORIDE EXITRONIX LIGHTOLIER	CVER2GNE EDG 2 GC W EM LRP W 2 GMR XX 120/277 ELN EDGL-EM-D-S-GM-BK (BLACK HOUSING) LEDBPRXFO-3-GW-SX STELX-X-2-SC-X 903-WB-CM-SCBA LEEC2GC7
	EP	EQUIPMENT ROOM LIGHTS: COMPACT FLUORESCENT VAPORTIGHT; COPPER-FREE CAST ALUMINUM BODY AND GUARD; CAST ADAPTERS FOR MOUNTING AS NOTED, CLEAR TEMPERED GLASS GLOBE, U.L. LISTED FOR USE IN WET LOCATIONS.					
	EP-1	WALL ARM MOUNT ON FLUSH OR RECESSED OUTLET BOX.	1-CF32A RE841	40W	120-277	SPERO D'AC EXCELINE RIG-A-LITE DAYBRITE GUTH TMS LUMARK ARK	VW15-41-G-VB32-CF D1010-1F32-UEB-SCBA RLW32HFLCGC1 VP-WB-1-32-F-MT VFN-32-C-U-W-PG VPW-32T 69-X-F-WF-32-UNV-G-GSC PLVS-W-GG-32-UNV AVW31 120
	EP-2	SURFACE MOUNT ON FLUSH OR RECESSED OUTLET BOX.	1-CF32A RE841	40W	120-277	SPERO D'AC EXCELINE RIG-A-LITE DAYBRITE GUTH TMS LUMARK ARK	VS15-41-G-VB32-CF D8010-1F32-UEB-SCBA RLW32HFLCGC6 VP-C-1-32-F-MT VFN-32-C-U-C-PG VPC-32T 69-X-F-CF-32-UNV-G-GSC PLVS-C-GG-32-UNV AVB31 119
	ET	TRANSFER DEVICE FOR FLUORESCENT BALLASTS, LOCATE ON FIRST EMERGENCY FIXTURE IN ROOM PER CIRCUIT TO TRANSFER EMERGENCY PORTION OF CIRCUIT TO EMERGENCY FEED, CONNECT TO NORMAL SIDE FOR SENSING, AND TO BOTH NORMAL FEED AND EMERGENCY CIRCUIT. USE 2 POLE FOR NORMAL CIRCUITS AND 3 POLES FOR DIMMED CIRCUITS.					
		CIRCUIT LEVEL TRANSFER DEVICE 20A MIN RATING				BODINE NINE24inc LIGHTGUARD CHLORIDE IOTA DUALITE EXITRONIX THE WATTSTOPPER LIGHTOLIER SIDE-LITE	GEN-20 BLTC-X LIGHTSTAR SERIES LIGHTSTAR SERIES ETS ATSD20 ETS ELCU-200 LPTC20 SB20
	OC	WALL PACK: ADJUSTABLE CUT OFF; FULL PERIMETER GASKETING; WET LOCATION; STAINLESS STEEL HINGES AND LATCHES; PROJECTING LENS; HPF BALLAST; SEE ELEVATION FOR MOUNTING HEIGHT, COLOR AS SPECIFIED BY ARCHITECT.					
	OC-32	LED, ARCHITECTURAL STYLE WITHTRAPEZOID TOP; FULL CUT-OFF; TYPE 3 DISTRIBUTION RECESSED J-BOX.	54-LED 6K	87 W	277/120V	EXCELINE HUBBELL MCGRAW NULITE GARDCO	 TRP-50L8-5K-WT-BL IST-B02-LED-E1-BL3-X-7060 EJL-G 48LED 6K UNV BK WT 101L-3-55LA-NW-UNIV-CBA
	S	FLUORESCENT STRIP LIGHT: STEEL CONSTRUCTION; WHITE PAINTED FINISH; SUITABLE FOR MOUNTING ON LOW DENSITY CEILINGS; PROGRAM START ELECTRONIC BALLASTS; T8 LAMPS; ONE BALLAST PER FIXTURE WHERE POSSIBLE, UNLESS TWO LEVEL SWITCHING IS SHOWN ON THE PLANS.					
	S-1	4', 1-LAMP. WITH WIRE GUARD HIGH EFFICIENCY	1-F32T8 RE835	40W	277/120V	LITHONIA LIGHTOLIER METALUX DAYBRITE HUBBELL HEWILLIAMS COLUMBIA	C132-MVOLT-TUBRHP-WG SW132-U-SOP-WG SS-132-UNV-PROGRAM START-WG T132-UNV-EB-SPEC-WG S132UPS-WG 75-4-132-WG14-EB8P1(.77BF)-UNV CS4-132-EB8120/277 PROG-WG
	SS	GENERAL PURPOSE INDUSTRIAL; WHITE ENAMEL, NONAPERTURED REFLECTOR; PROGRAM START ELECTRONIC BALLASTS; T8 LAMPS; ONE BALLAST PER FIXTURE WHERE POSSIBLE; UNLESS TWO LEVEL SWITCHING IS SHOWN ON THE PLANS, STEM MOUNTED WITH TONG HANGERS.					
	SS-1	4', 2 LAMP. HIGH EFFICIENCY BALLAST.	2-F32T8 RE841 3100 LU	48W	277/120V	LITHONIA LIGHTOLIER METALUX LSI COLUMBIA DAYBRITE	EJ232-MVOLT-TUBRHP-THUN KWS232-U-SOP IC-232-UNV-PROGRAM START F22 232 SSO10PRS CH-12 UE CSR4-232-EB8120/277 PROG-CSTH IS232-UNV-1/2-EB-SPEC
	V	VANDAL RESISTANT SURFACE MOUNTED LIGHTING: .125" INJECTION MOLDED POLYCARBONATE LENS; IMPACT RESISTANT; UV STABILIZED; ALL METAL PARTS ARE ENCLOSED; GASKETED; VANDAL RESISTANT STAINLESS STEEL SCREWS; SECURED MOUNTING; PROGRAM START ELECTRONIC BALLASTS; T8 LAMPS.					
	V-1	4', 2-LAMP WITH PRISMATIC LENS; 51" X 9 1/2" X 3 1/2", 16 GAUGE STEEL. COLD WEATHER BALLAST	2-F32T8 RE841 3100 LU	48W	277/120V	KENALL FAIL-SAFE LUMINAIRE NEW STAR LA LIGHTING CD LIGHTING HOLCOR DAY-BRITE	N1048-C-232SB1-120/277 FPS-232-UNV-PROGRAM START LVP-751-232-EBPS-120 51C-124-U-T8PROGRAM WSE500-2-4R-DL-T8EB-UNV VSL-24-232-UNV-EB HSP2-2/32T8-120-TX-UNIVOLT-PROGRAM STAR SLW-232-UNV-1/2EB10R
	W	LOW PROFILE WRAPAROUND: SURFACE MOUNTED SUITABLE FOR MOUNTING ON LOW DENSITY CEILINGS ACRYLIC PRISMATIC DIFFUSER; WHITE ENAMEL ENDPLATES; MINIMUM CU OF 70 @ 80/50/20 AND RCR=1; PROGRAM START ELECTRONIC BALLASTS; T8 LAMPS; ONE BALLAST PER FIXTURE WHERE POSSIBLE, UNLESS TWO LEVEL SWITCHING IS SHOWN ON THE PLANS.				WRAPAROUND	
	W-3	MEDIUM BODY WRAPAROUND; 2-LAMP, APPROX; 3" X 10" X 48". HIGH EFFICIENCY	2-F32T8 RE841 3100 LU	65W	277/120V	LITHONIA DAYBRITE METALUX LIGHTOLIER LSI COLUMBIA	LB232-MVOLT-TUBPHP CAN232-UNV-1/2-EB-SPEC WS-232A-UNV-PROGRAM START WA232-U-SOP PR 232 SSO10PRS UE WC4-232-EBPS120/277

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LIGHTING FIXTURE SCHEDULE

EL601

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RELAY PANEL SCHEDULE

RELAY CABINET: "0RA"

RELAY #	PANEL CIRCUIT #	CONTROL GROUP	CONTROL METHOD	LOAD DESCRIPTION
1				SPARE RELAY
2				SPARE RELAY
3				SPARE RELAY
4				SPARE RELAY
5				SPARE RELAY
6				SPARE RELAY
7				SPARE RELAY
8				SPARE RELAY
9				SPARE RELAY
10				SPARE RELAY
11				SPARE RELAY
12				SPARE RELAY
13				SPARE RELAY
14				SPARE RELAY
15				SPARE RELAY
16				SPARE RELAY
EMERGENCY POWER BARRIER				
17				SPARE RELAY
18				SPARE RELAY
19				SPARE RELAY
20				SPARE RELAY
21				SPARE RELAY
22				SPARE RELAY
23				SPARE RELAY
24				SPARE RELAY

RELAY PANEL SCHEDULE

RELAY CABINET: "1RA"

RELAY #	PANEL CIRCUIT #	CONTROL GROUP	CONTROL METHOD	LOAD DESCRIPTION
1				SPARE RELAY
2				SPARE RELAY
3				SPARE RELAY
4				SPARE RELAY
5				SPARE RELAY
6				SPARE RELAY
7				SPARE RELAY
8				SPARE RELAY
9				SPARE RELAY
10				SPARE RELAY
11				SPARE RELAY
12				SPARE RELAY
13				SPARE RELAY
14				SPARE RELAY
15				SPARE RELAY
16				SPARE RELAY
EMERGENCY POWER BARRIER				
17				SPARE RELAY
18				SPARE RELAY
19				SPARE RELAY
20				SPARE RELAY
21				SPARE RELAY
22				SPARE RELAY
23				SPARE RELAY
24				SPARE RELAY

RELAY PANEL SCHEDULE

RELAY CABINET: "2RA"

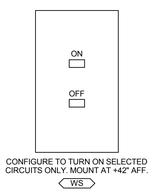
RELAY #	PANEL CIRCUIT #	CONTROL GROUP	CONTROL METHOD	LOAD DESCRIPTION
1				SPARE RELAY
2				SPARE RELAY
3				SPARE RELAY
4				SPARE RELAY
5				SPARE RELAY
6				SPARE RELAY
7				SPARE RELAY
8				SPARE RELAY
9				SPARE RELAY
10				SPARE RELAY
11				SPARE RELAY
12				SPARE RELAY
13				SPARE RELAY
14				SPARE RELAY
15				SPARE RELAY
16				SPARE RELAY
EMERGENCY POWER BARRIER				
17				SPARE RELAY
18				SPARE RELAY
19				SPARE RELAY
20				SPARE RELAY
21				SPARE RELAY
22				SPARE RELAY
23				SPARE RELAY
24				SPARE RELAY

LIGHTING CONTROL GROUPS

A	BUILDING COMMON AREAS
O1	OUTDOOR NIGHT LIGHTS
O2	OUTDOOR LIGHTS
	SUFFIXES
- D	INDOOR DAYLIGHTING AREA (WITH DESIRED FOOT CANDLE LEVEL TO BE MAINTAINED)
- EM	EMERGENCY LIGHT

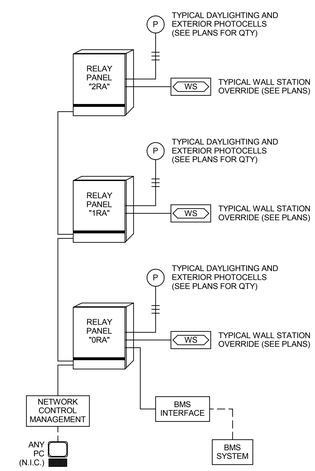
LIGHTING CONTROL METHODS

1	ON/OFF WITH OCCUPIED/UNOCCUPIED MODE, BASED ON BMS TIMECLOCK CONTROL
2	OCCUPIED TIMES: INDOOR PHOTCELL ON/OFF UNOCCUPIED TIMES: ALWAYS OFF
3	ON/OFF WITH LOCAL WALL STATION ONLY SWEEP OFF AT UNOCCUPIED TIME
4	ON/OFF WITH EXTERIOR PHOTOCELL
5	ON/OFF W/EXTERIOR PHOTOCELL ENABLE/DISABLE WITH BMS TIMECLOCK
6	ALWAYS ON (NIGHT LIGHT)
7	NORMALLY OFF. ON ONLY IN POWER FAILURE/ EMERGENCY MODE
	SUFFIXES
-E	Emergency lighting control: on/off on time schedule same as other adjacent fixtures in group. All indoor emergency fixtures shall all turn on upon activation of any and all wall station override stations in the building, and always be on upon power failure.
-WSX	WALL STATION OVERRIDE OR ON/OFF; "X" = SPECIFIC WALL STATION WITH CONTORL

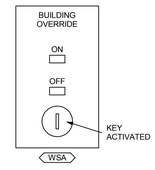


CONFIGURE TO TURN ON SELECTED CIRCUITS ONLY. MOUNT AT +42" AFF.

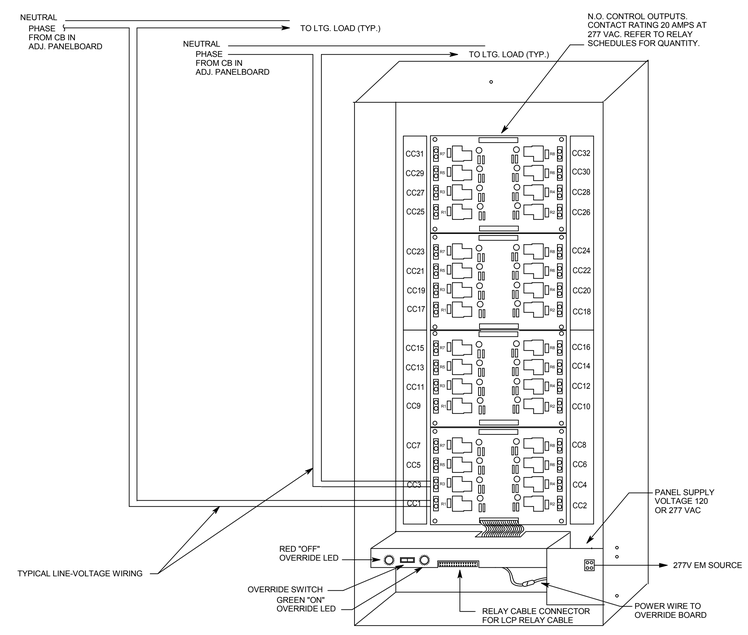
3 EL602 TYPICAL WALL STATION
SCALE: N.T.S.



4 EL602 LIGHTING CONTROL SCHEMATIC
SCALE: N.T.S.



1 EL602 TYPICAL COMMON AREA WALL STATION OVERRIDE SWITCH
SCALE: N.T.S.



2 EL602 TYPICAL RELAY PANEL WIRING DETAIL
SCALE: N.T.S.

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LIGHTING CONTROL SCHEDULES AND DETAILS

EL602

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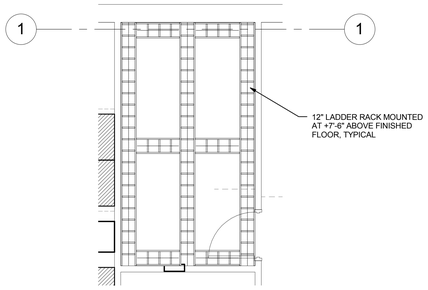
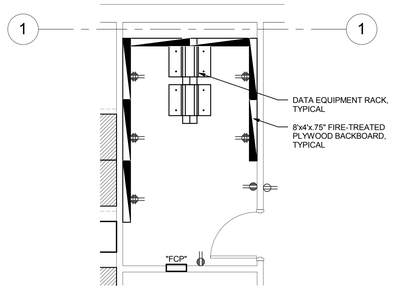
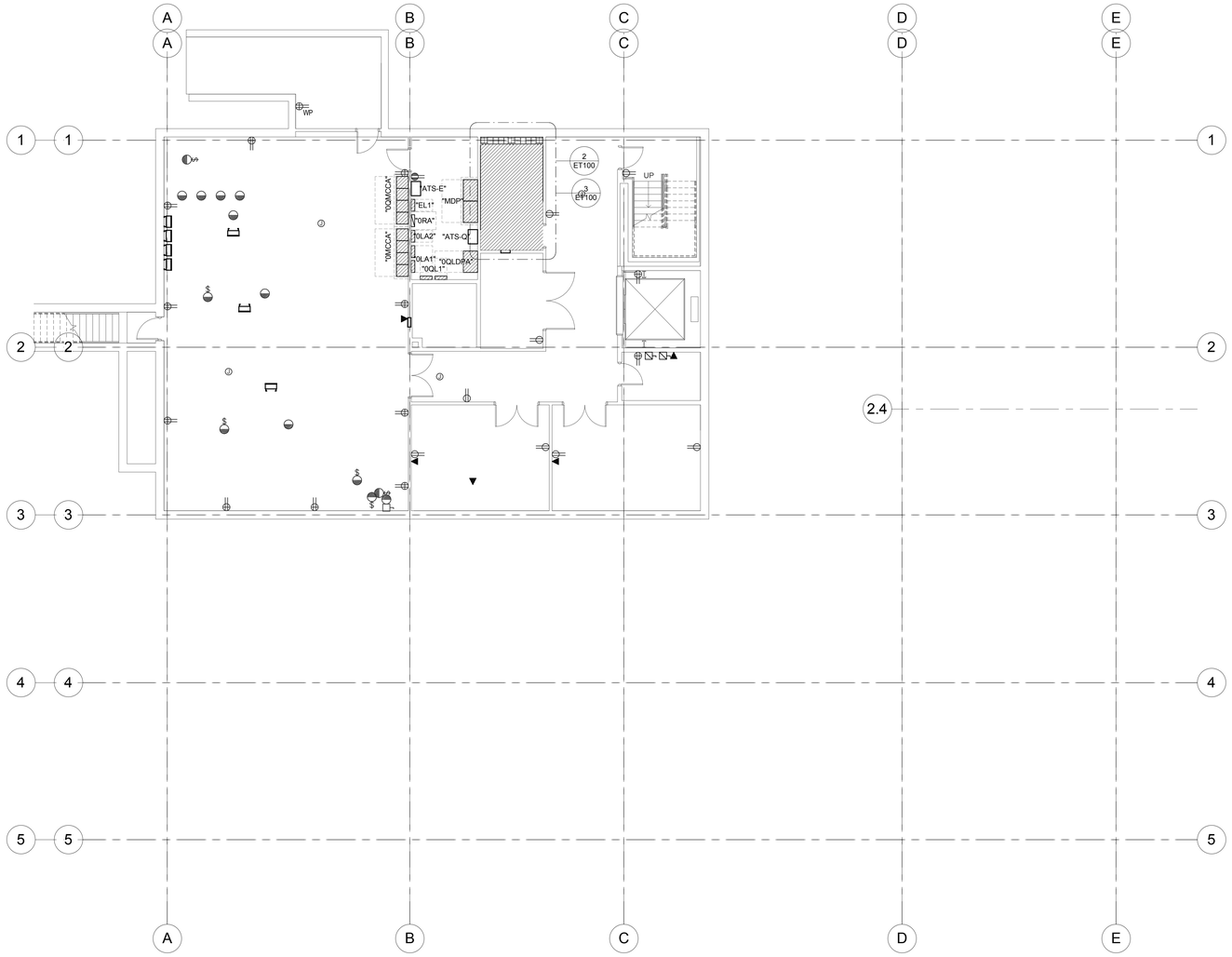


3 ET100 ENLARGED TELECOM 006 LADDER RACK LAYOUT PLAN
1/4" = 1'-0"



2 ET100 ENLARGED TELECOM 006 EQUIPMENT LAYOUT PLAN
1/4" = 1'-0"



1 ET100 BASEMENT TELECOMMUNICATIONS PLAN
1/8" = 1'-0"

SHEET KEYNOTES

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BASEMENT TELECOMMUNICATIONS PLAN

ET100

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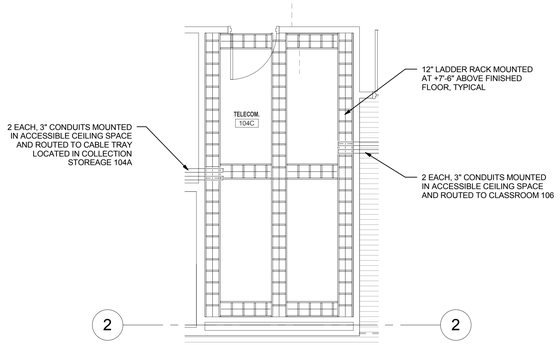
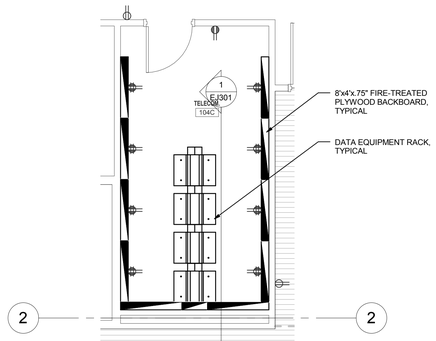
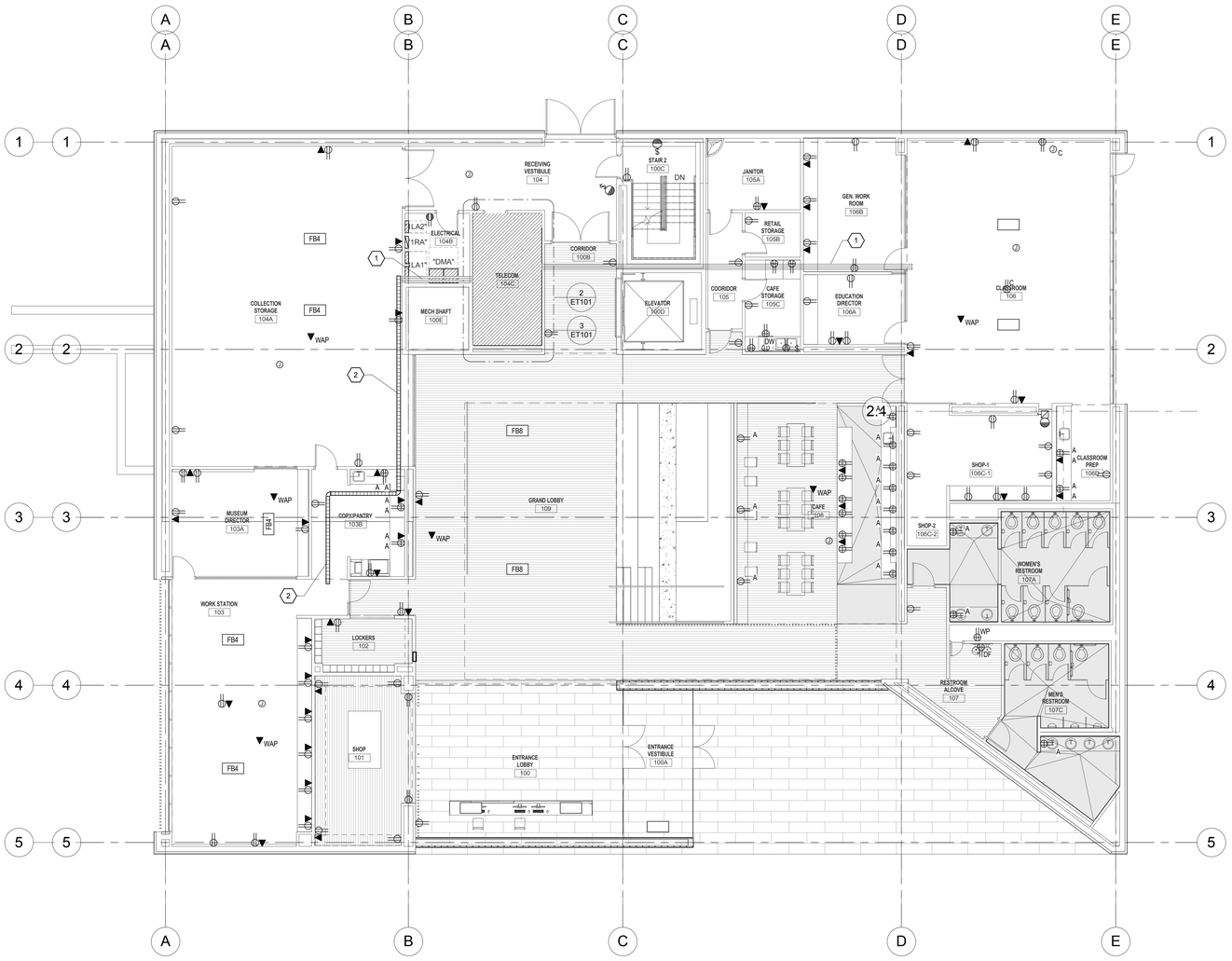


3 ET101 ENLARGED TELECOM 104C LADDER RACK LAYOUT PLAN
1/4" = 1'-0"



2 ET101 ENLARGED TELECOM 104C EQUIPMENT LAYOUT PLAN
1/4" = 1'-0"



1 ET101 LEVEL 1 TELECOMMUNICATIONS PLAN
1/8" = 1'-0"

SHEET KEYNOTES

1 2 EACH, 3" CONDUITS MOUNTED IN ACCESIBLE CEILING SPACE.

2 4"X6" CABLE TRAY MOUNTED AT +13'-0" ABOVE FINISHED FLOOR IN ACCESSIBLE CEILING SPACE.

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LEVEL 1
TELECOMMUNICATIONS PLAN

ET101

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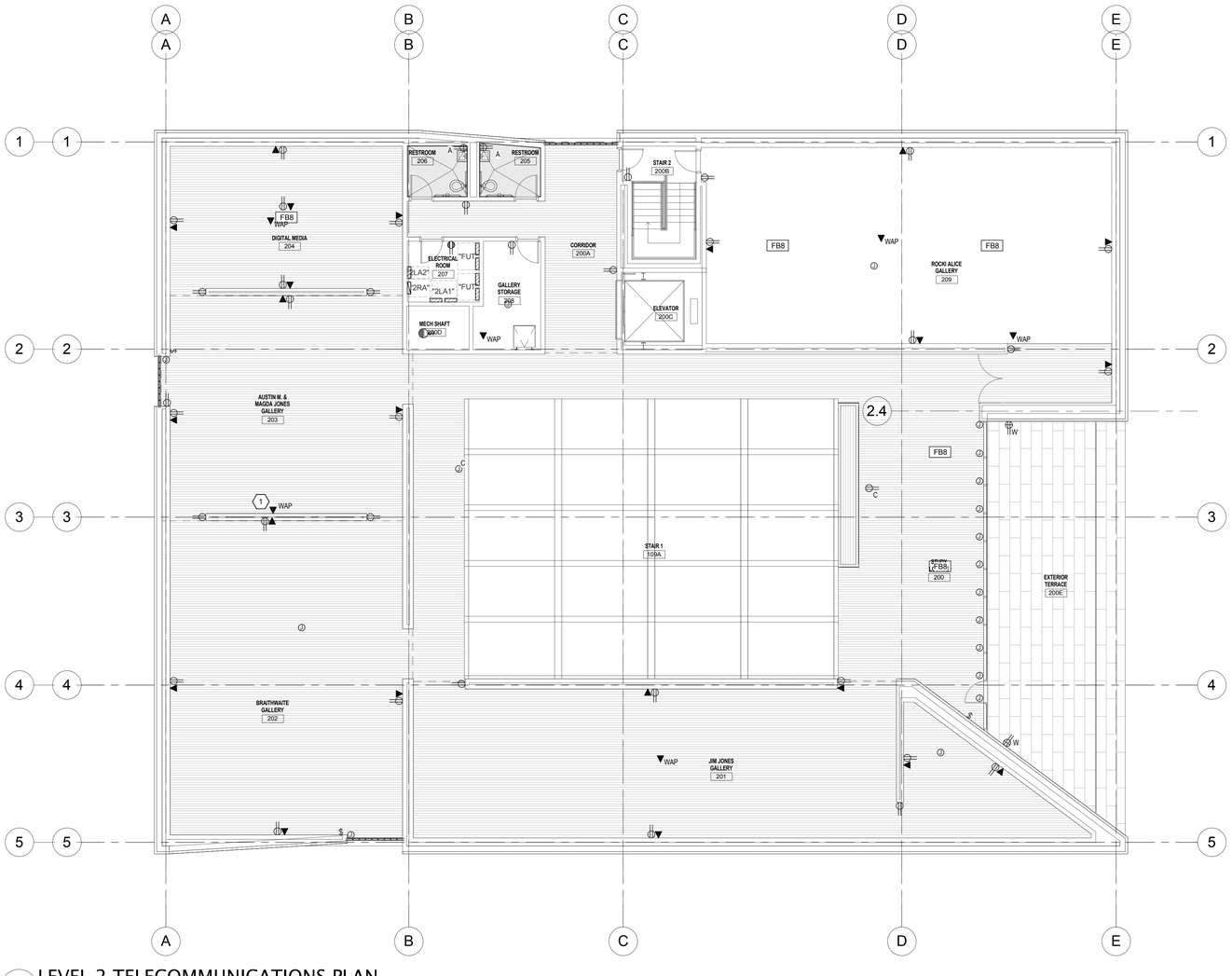

1 LEVEL 2 TELECOMMUNICATIONS PLAN
ET102 1/8" = 1'-0"

SHEET KEYNOTES

1 INSTALL WIRELESS ACCESS POINT (WAP) AT TOP OF WALL.

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LEVEL 2
TELECOMMUNICATIONS PLAN

ET102

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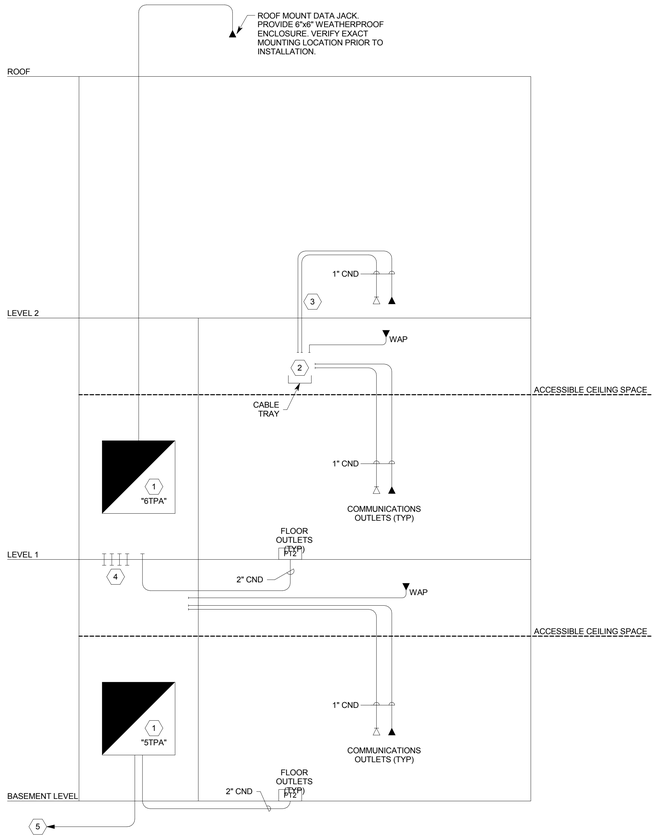
VOICE-DATA ROUGH-IN SCHEDULE

ELECTRONIC SYSTEMS: REFER TO SECTION 16724, 16741, AND WIRING DEVICE SCHEDULES FOR INSTALLATION REQUIREMENTS. MOUNTING HEIGHTS SHOWN ARE TYPICAL HEIGHTS. REFER TO DIVISION 16 DRAWINGS, ARCHITECTURAL ELEVATIONS, DRAWINGS AND SPECIFICATIONS FOR ACTUAL MOUNTING HEIGHTS.

SYMBOL	MOUNTING	DESCRIPTION	ROUGH-IN MATERIALS
W	WALL	WALL PHONE OUTLET	DOUBLE GANG, DEEP JUNCTION BOX WITH SINGLE GANG MUD RING MOUNT AT ELECTRICAL SWITCH HEIGHT OR AS NOTED
	WALL	DATA OUTLET	DOUBLE GANG, DEEP JUNCTION BOX WITH SINGLE GANG MUD RING. MOUNT AT ELECTRICAL OUTLET HEIGHT OR AS NOTED.
WAP	ABOVE ACCESSIBLE CEILING	DATA OUTLET, WIRELESS	DOUBLE GANG, DEEP JUNCTION BOX WITH SINGLE GANG MUD RING
	FLOOR	OPEN RAIL DATA EQUIPMENT RACK	FURNISHED AND INSTALLED BY DATA CONTRACTOR
	WALL	TELEPHONE BOARD	.75"x4'x8' PLYWOOD, FIREPROOFED, PAINTED WHITE



1 TELECOMMUNICATIONS RACEWAY RISER DIAGRAM

NTS

GENERAL SHEET NOTES

1. WELL IN ADVANCE OF INSTALLATION, COORDINATE WORK WITH ALL OTHER TRADES SO THAT ELECTRICAL EQUIPMENT, OR ITS INTENDED USE, IS NOT OBSTRUCTED BY EQUIPMENT BEING PROVIDED BY OTHER DIVISIONS.
2. ALL VOICE-DATA SYSTEMS CABLE IS TO BE INSTALLED INSIDE MINIMUM 1" CONDUIT. STUB CONDUIT FROM JUNCTION BOX LOCATION TO CABLE MANAGEMENT SYSTEM SPECIFIED FOR ACCESSIBLE CEILING.

SHEET KEYNOTES

1. PROVIDE 0.75" THICK X 8" HIGH FIRE-TREATED, PAINTED PLYWOOD ON ALL WALLS OF COMMUNICATIONS ROOMS.
2. STUB CONDUITS ALL THE WAY TO CABLE TRAY. PROVIDE INSULATED THROATS. WHERE CABLE TRAYS ARE NOT PROVIDED, OR WHERE CEILINGS ARE INACCESSIBLE, THEN STUB CONDUITS ALL THE WAY TO TELECOM ROOM.
3. STUB SECOND FLOOR DATA CONDUIT TO CABLE TRAY ON FIRST LEVEL.
4. PROVIDE 4 EACH, 4" CONDUIT SLEEVES BETWEEN FLOORS. FIRE STOP AFTER CABLING INSTALLATION IS COMPLETE.
5. PROVIDE 2 EACH, 4" CONDUITS TO TUNNEL.

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TELECOMMUNICATIONS ROUGH-IN SCHEDULE, NOTES, AND RISER DIAGRAM

ET601

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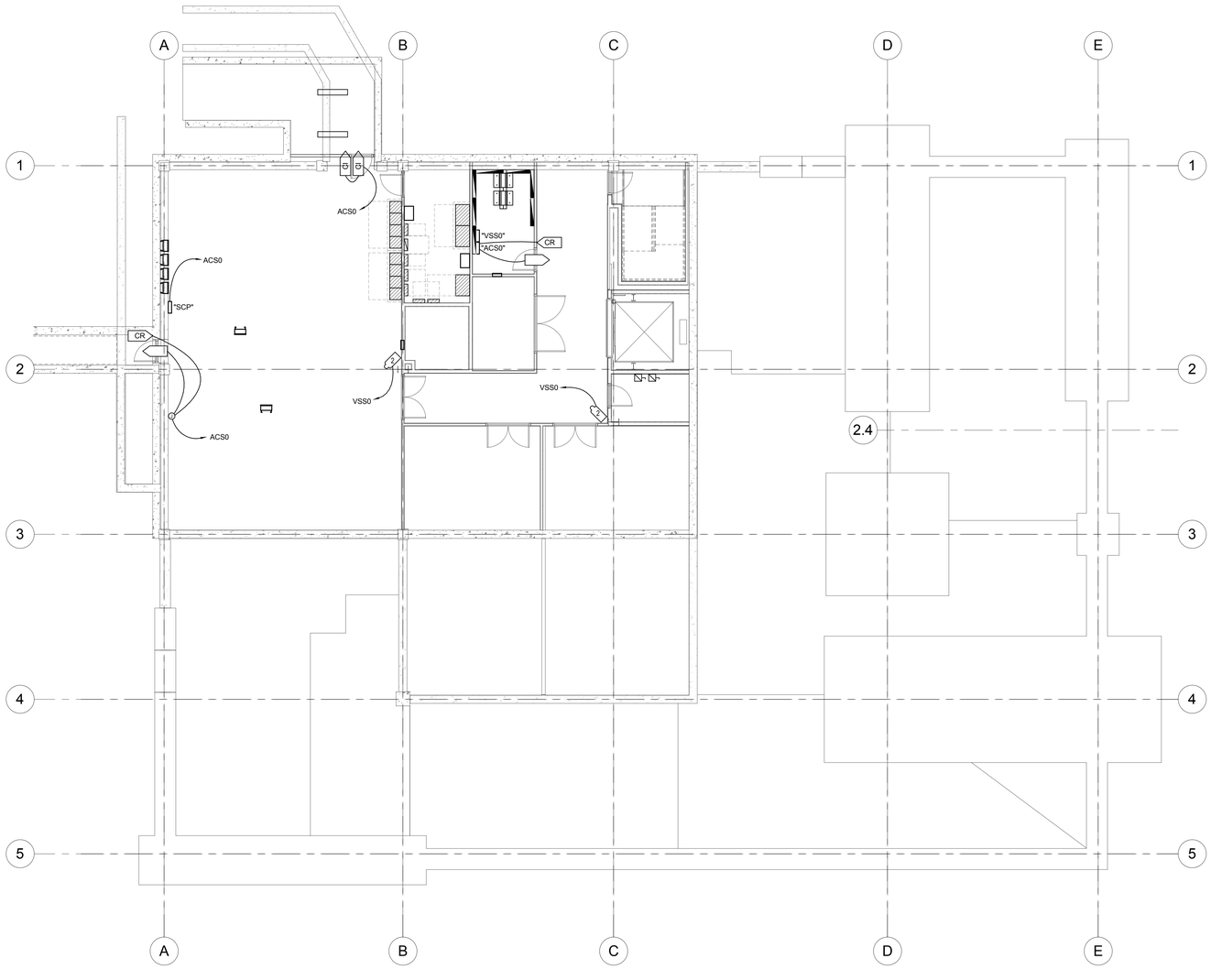

1 EY100 BASEMENT AUXILIARY CEILING PLAN
1/8" = 1'-0"

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GENERAL SHEET NOTES

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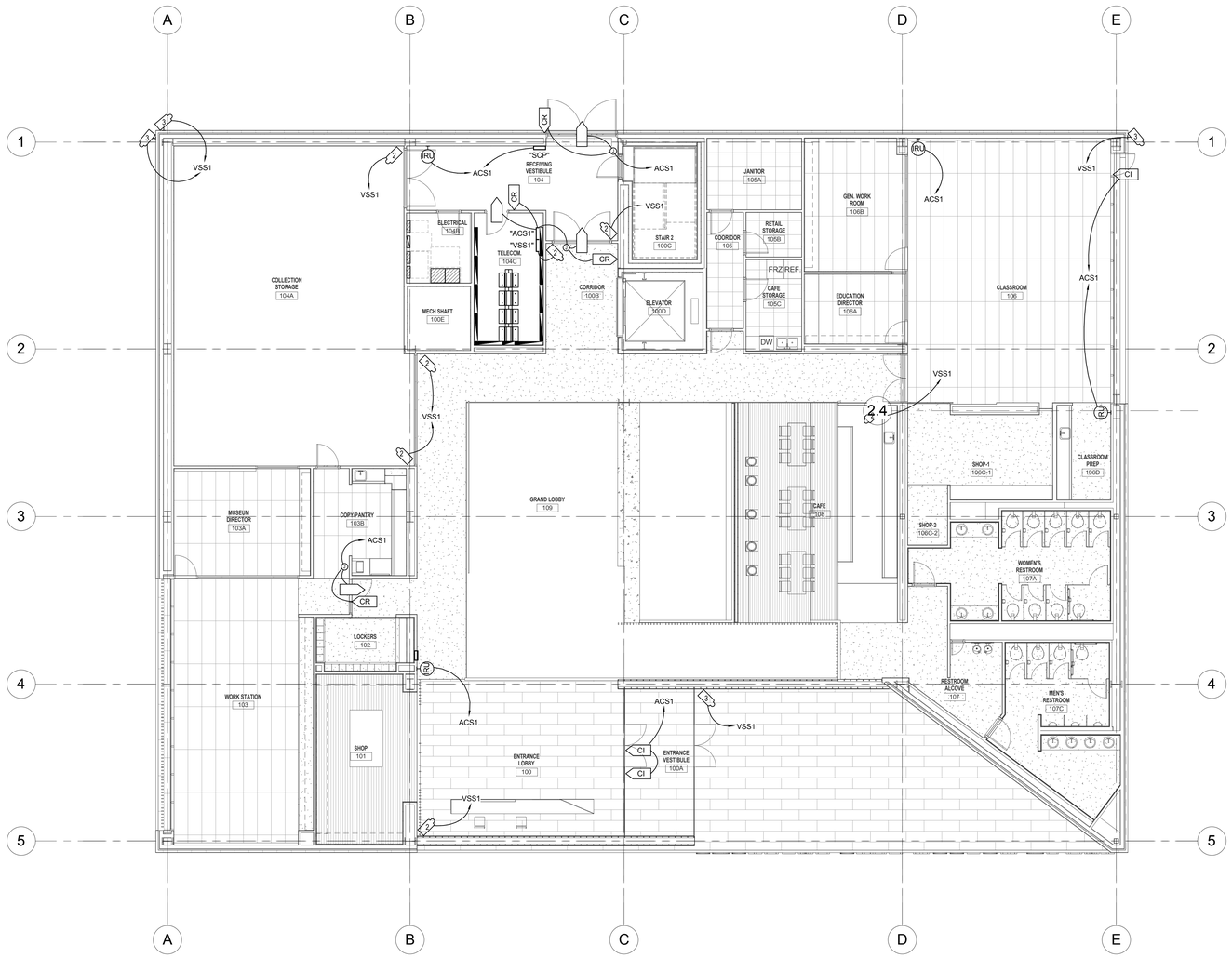
BASEMENT AUXILIARY PLAN

EY100



1 EY101 LEVEL 1 AUXILIARY CEILING PLAN
1/8" = 1'-0"

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GENERAL SHEET NOTES

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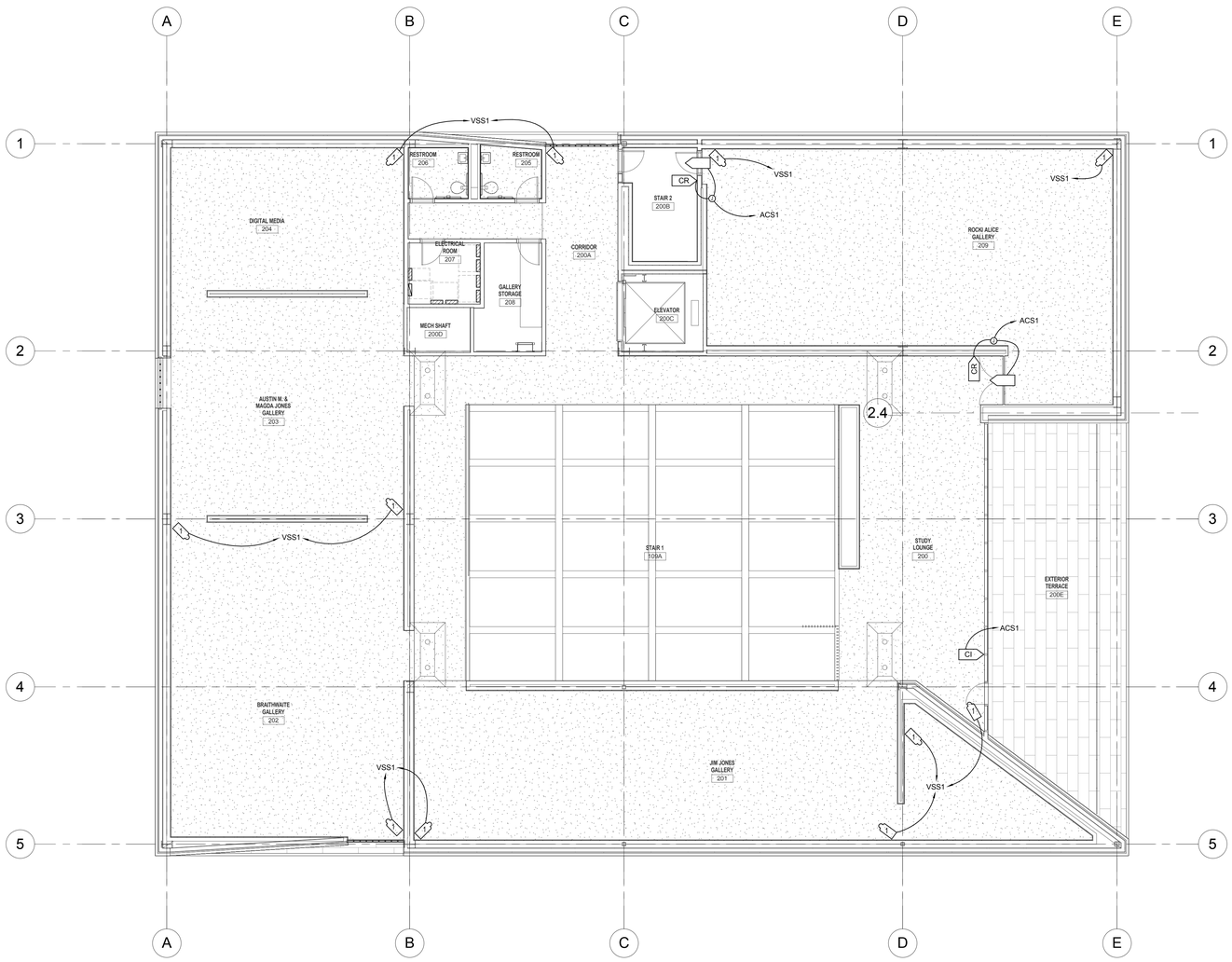
LEVEL 1 AUXILIARY PLAN

EY101



1 EY102 LEVEL 2 AUXILIARY CEILING PLAN
1/8" = 1'-0"

GENERAL SHEET NOTES

SHEET KEYNOTES

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LEVEL 2 AUXILIARY PLAN

EY102

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CARD ACCESS DOOR TYPE SCHEDULE

DOOR TYPE #	SYMBOL	DESCRIPTION	PROTECTED SIDE ELEVATION	UNPROTECTED SIDE ELEVATION	LOCK TYPE(S)	INCLUDES:
TYPE 1:	CR, #1, TO ACS		TBD WITH HARDWARE GROUP INFORMATION			
TYPE CI:	CI, TO SEC		TBD WITH HARDWARE GROUP INFORMATION			

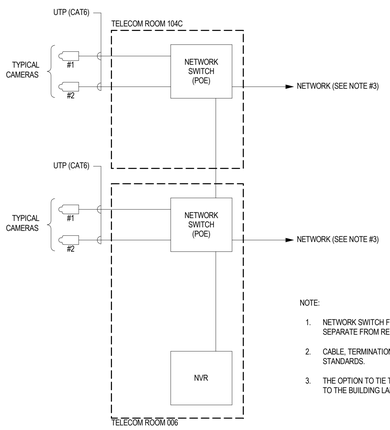
CCTV CAMERA/ENCLOSURE TYPE SCHEDULE

CAMERA TYPE NUMBER	SYMBOL	DESCRIPTION	INCLUDES
TYPE 1:	1, VP, VSS	INTERIOR CAMERA - FIXED DOME (CEILING MOUNTED)	UTP SIGNAL CABLE TO HEADEND 24 VAC PWR. TO COMM ROOM POWER SUPPLY
TYPE 2:	2, VSS	INTERIOR CAMERA - FIXED DOME (WALL MOUNTED)	UTP SIGNAL CABLE TO HEADEND 24 VAC PWR. TO COMM ROOM POWER SUPPLY
TYPE 3:	3, VSS	EXTERIOR FIXED CAMERA (WALL MOUNTED)	OUTDOOR DOME FIXED CAMERA/ENCLOSURE 24 VAC PWR 24 VAC HEATER/BLOWER (INTEGRAL) WALL MOUNTING HARDWARE

SECURITY SYSTEM EQUIPMENT SCHEDULE

SYMBOL	DESCRIPTION	MOUNTING *	ROUGH-IN	QTY	ACCEPTABLE TYPES
CR	CARD READER	40"	4SQ W/ 1G RING	OFP	SEE SECTION 281300
#1	CARD ACCESS DOOR TYPE, TYPICAL. REFER TO CARD ACCESS DOOR TYPE SCHEDULE.	SEE SCHEDULE	SEE SCHEDULE	OFP	REFER TO CARD ACCESS DOOR TYPE SCHEDULE & SECTION 16724
CI	DOOR MONITOR - CONTACT INDICATOR SWITCH	SEE SCHEDULE	SEE SCHEDULE	OFP	SEE SECTION 281300 AND 281600
1	VSS CAMERA/ENCLOSURE TYPE, TYPICAL. REFER TO VSS CAMERA/ENCLOSURE TYPE SCHEDULE.	SEE SCHEDULE	SEE SCHEDULE	OFP	SEE VSS CAMERA/ENCLOSURE TYPE SCHEDULE AND SECTION 282300
ACC	CARD ACCESS CONTROLLERS & PWR SUPPLIES	72"	4"x4" GUTTER & STUBS A/R	A/R	SEE SECTION 281300
SEC	INTRUSION DETECTION PANEL	72"	4"x4" GUTTER & STUBS A/R	OFP	SEE SECTION 281600
VSS	VIDEO SURVEILLANCE SYSTEM	72"	4"x4" GUTTER & STUBS A/R	A/R	SEE SECTION 282300
SCP	INTRUSION DETECTION KEYPAD ARM/DISARM STATION	60"	4SQ W/ 1G RING	OFP	SEE SECTION 281600
IRU	360° CEILING MOUNTED INTRUSION DETECTION MOTION DETECTOR	CEILING	4-0 BOX	OFP	SEE SECTION 281600
IRU	WALL MOUNTED INTRUSION DETECTION MOTION DETECTOR	80"	4SQ W/ 1G RING	OFP	SEE SECTION 281600

* COORDINATE MOUNTING HEIGHTS WITH ARCHITECTURAL ELEVATIONS BEFORE INSTALLATION.



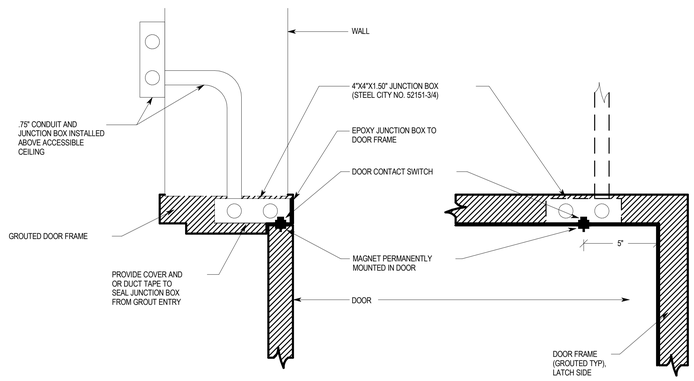
NOTE:

1. NETWORK SWITCH FOR VIDEO SURVEILLANCE CABLING SHALL BE SEPARATE FROM REST OF LAN SYSTEM.
2. CABLE, TERMINATION, AND TESTING SHALL BE PER ANSI/TIA 568C STANDARDS.
3. THE OPTION TO TIE THE VIDEO SURVEILLANCE SWITCH NETWORK TO THE BUILDING LAN IS TO BE DETERMINED BY THE OWNER.

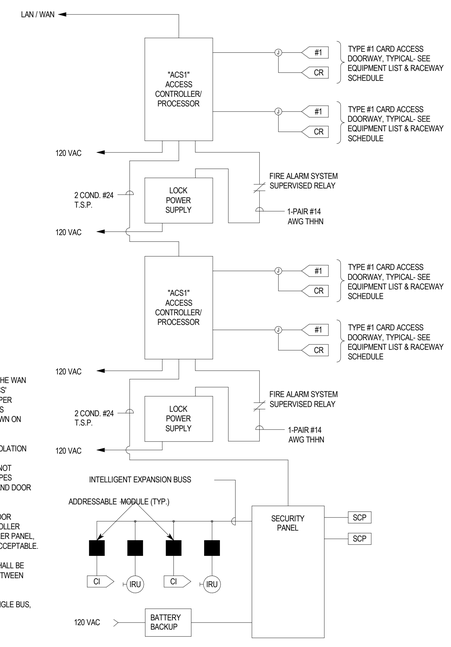
3 VIDEO SURVEILLANCE SYSTEM DIAGRAM
EY601 SCALE: N.T.S.

NOTES:

1. DRILL .125" HOLE TO INDICATE SWITCH LOCATION AND IDENTIFY WHERE JUNCTION BOX IS.
2. THE INTENT OF THIS DETAIL IS TO PROVIDE A GROUT-FREE ENVIRONMENT FOR, AND EASIER CABLE ACCESS TO, THE CONTACT SWITCH LOCATION. SUBMIT METHOD OF PROVIDING GROUT FREE ENVIRONMENT DURING SUBMITTAL PROCESS. ADDRESS ANY QUESTIONS TO THE ENGINEER.
3. PRIOR TO ANY ROUGH-IN MEET WITH SCHOOL DISTRICT PERSONEL TO CONFIRM ROUGH-IN.



1 DOOR SWITCH INSTALLATION DETAILS
EY601 SCALE: N.T.S.



NOTES:

1. ACCESS CONTROL SYSTEM BASED UPON THE EXTENSION. VIA THE WAN NETWORK, OF AN EXISTING ACCESS CONTROL SYSTEM. THE 'ACS' EXTENSION MODULES SHOWN ARE FOR EIGHT CARD READERS PER ACCESS CONTROLLER/PROCESSOR. PROVIDE MULTIPLE ACCESS CONTROLLER FOR REQUIRED NUMBER OF CARD READERS SHOWN ON FLOOR PLANS.
2. ACCESS CONTROLLER "ACS" INDICATED SHALL INCLUDE ANY ISOLATION MODULES, BUFFER MODULES, EXTERNAL POWER SUPPLIES, INPUT/OUTPUT MODULES, OR FORMAT CONVERTER MODULES (NOT SHOWN) REQUIRED TO SUPPORT CARD READER OR KEYPAD TYPES INDICATED. FOR COMPLETE AND FUNCTIONING CARD READER AND DOOR CONTROL.
3. PROVIDE SEPARATE WIRE PAIRS FOR REQUEST TO EXIT AND DOOR CONTACT INDICATOR, FROM ACCESS DOOR TO ACCESS CONTROLLER "ACS" PANEL. SINGLE PAIR, FROM ACCESS DOOR TO CONTROLLER PANEL, FOR REQUEST TO EXIT AND DOOR CONTACT INDICATOR, NOT ACCEPTABLE.
4. REQUEST TO EXIT AND DOOR CONTACT INDICATOR CIRCUITS SHALL BE SUPERVISED FOR OPEN CIRCUIT OR SHORT CIRCUIT FAULTS BETWEEN THE DEVICE CONTACTS AND ACCESS CONTROLLER.
5. FIELD DEVICES CAN BE CONFIGURED AS ADDRESSIBLE ON A SINGLE BUS, OR INDIVIDUALLY HOMERUN.
6. ALL DEVICES SHALL BE IDENTIFIED AS SINGLE ZONES.

2 SECURITY AND ACCESS CONTROL SYSTEM DIAGRAM
EY601 SCALE: N.T.S.

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AUXILIARY SYSTEMS DETAILS AND DIAGRAMS

EY601

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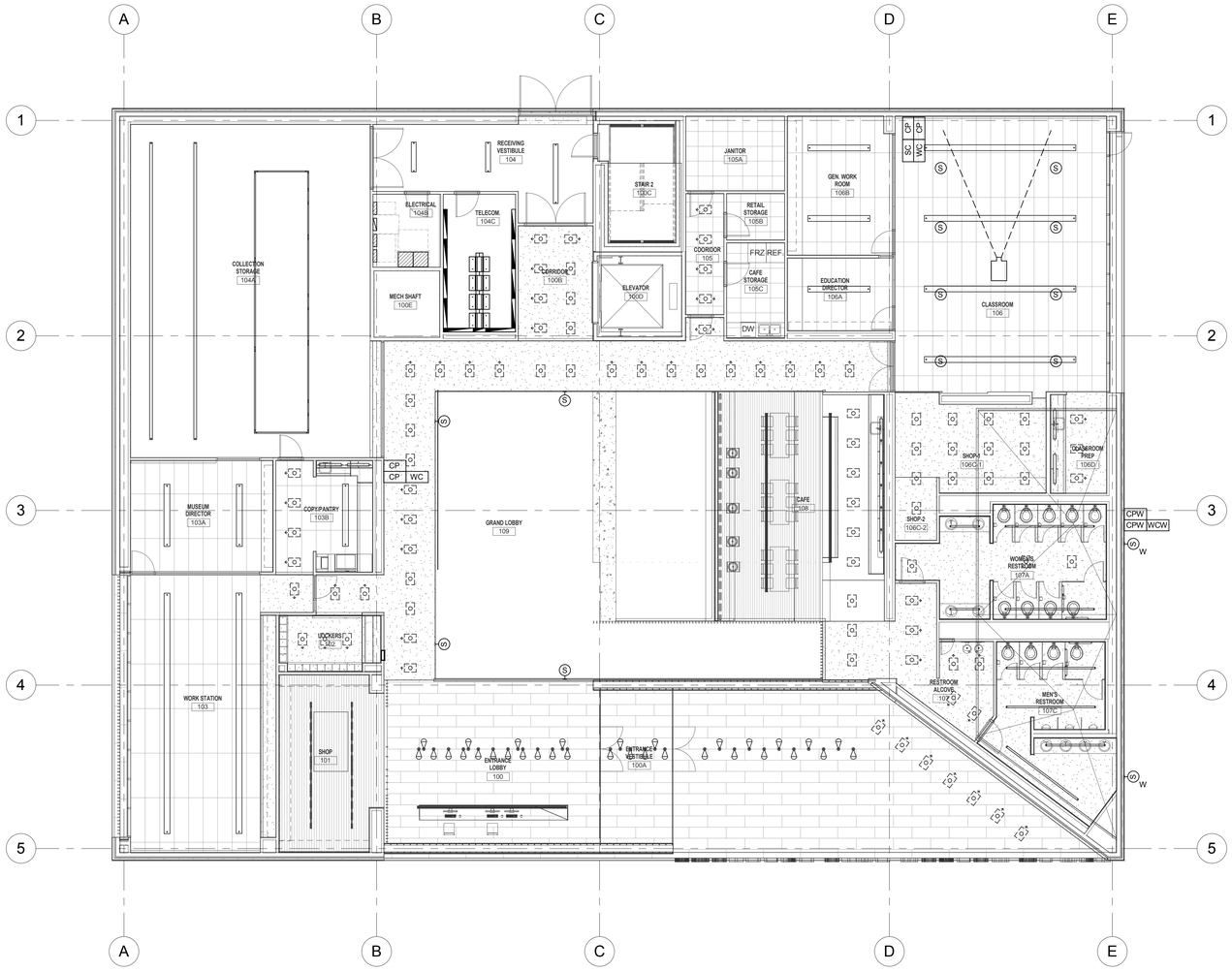
SYMBOL LEGEND

SYMBOL	DESCRIPTION
	PROJECTOR
	PROJECTION SCREEN
S W	WALL SPEAKER-WEATHERPROOF (OUTSIDE)
S	WALL SPEAKER
S	CEILING SPEAKER
WC	WALL CONTROLLER
WCW	WALL CONTROLLER-WEATHERPROOF (OUTSIDE)
CP	AUDIO-VIDEO CONNECTION PANEL
CPW	AUDIO-VIDEO CONNECTION PANEL-WEATHERPROOF (OUTSIDE)
SC	SCREEN CONTROLLER
FBAV	AV FLOOR BOX

SHEET KEYNOTES



1 EJ101 LEVEL 1 AUDIO-VIDEO PLAN
1/8" = 1'-0"

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LEVEL 1 AUDIO-VIDEO PLAN

EJ101

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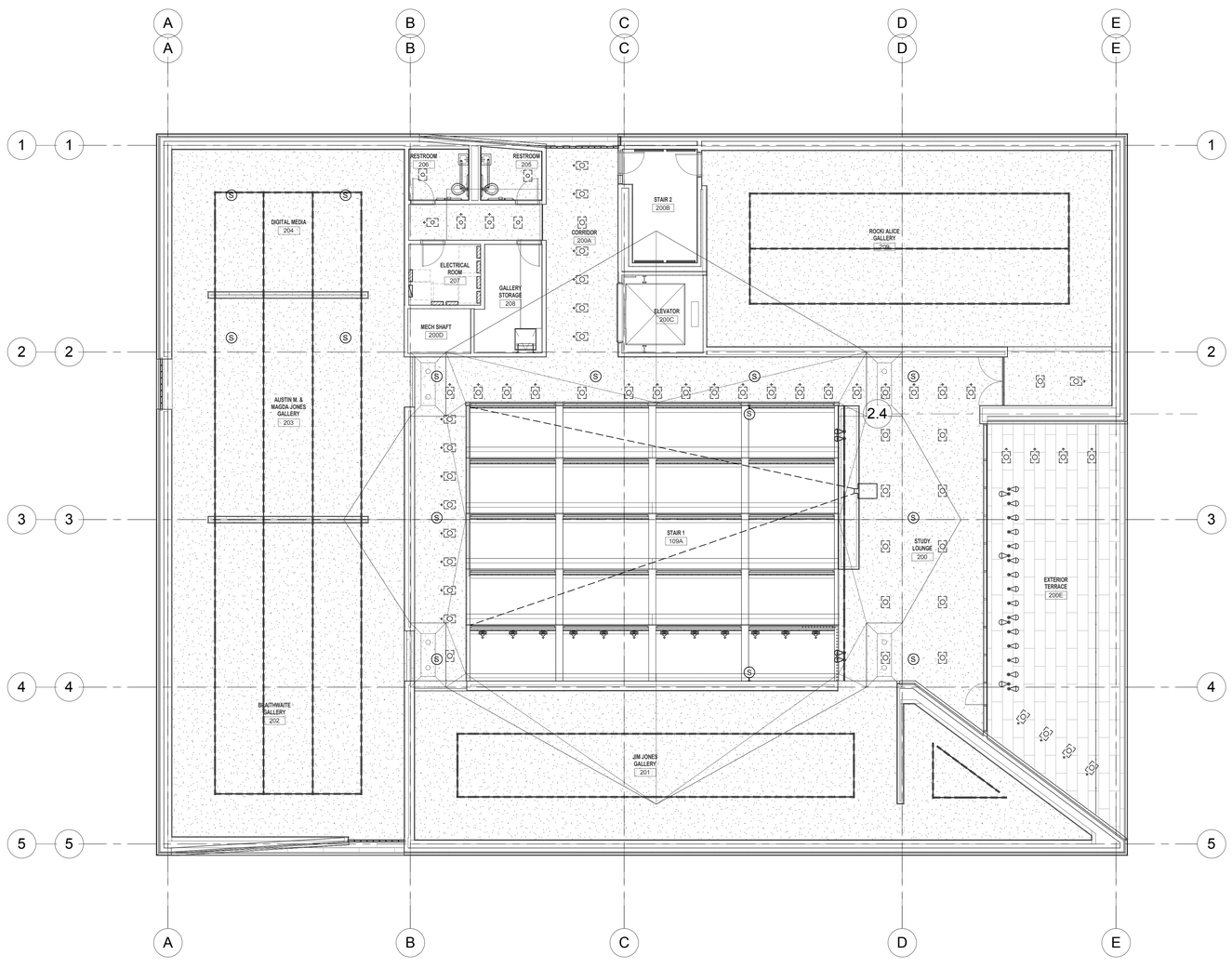
SYMBOL LEGEND

SYMBOL	DESCRIPTION
	PROJECTOR
	PROJECTION SCREEN
S W	WALL SPEAKER-WEATHERPROOF (OUTSIDE)
S	WALL SPEAKER
S	CEILING SPEAKER
WC	WALL CONTROLLER
WCW	WALL CONTROLLER-WEATHERPROOF (OUTSIDE)
CP	AUDIO-VIDEO CONNECTION PANEL
CPW	AUDIO-VIDEO CONNECTION PANEL-WEATHERPROOF (OUTSIDE)
SC	SCREEN CONTROLLER
FBAV	AV FLOOR BOX

SHEET KEYNOTES



1 EJ102 LEVEL 2 AUDIO-VIDEO PLAN
1/8" = 1'-0"

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LEVEL 2 AUDIO-VIDEO PLAN

EJ102

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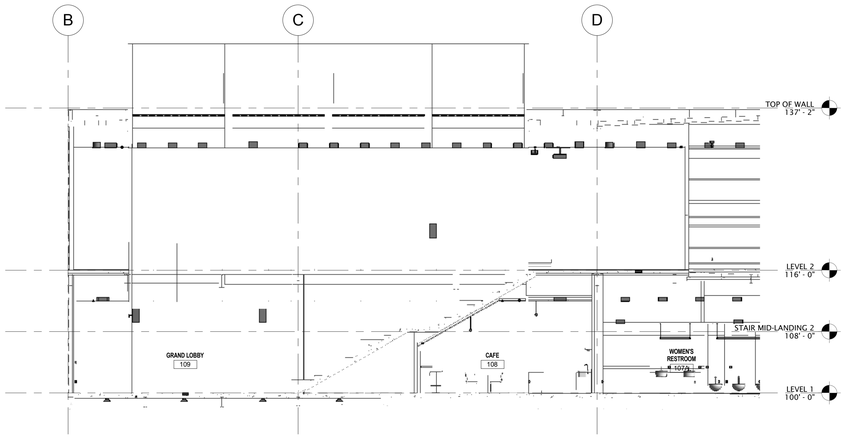
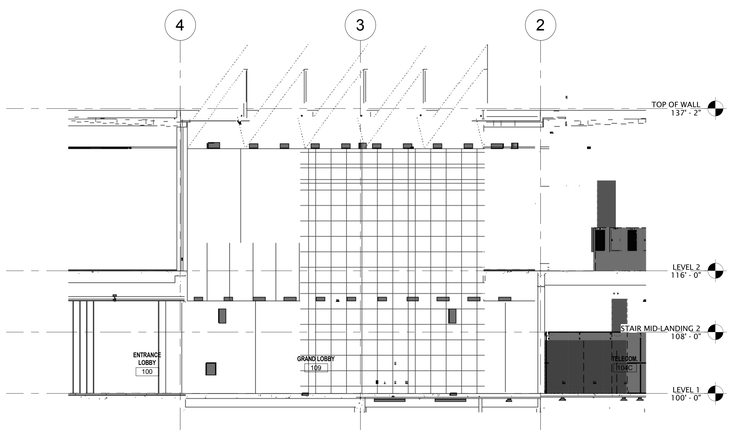


2 EJ301 GRAND LOBBY 109 AUDIO-VIDEO SECTION DETAIL 2
1/8" = 1'-0"



1 EJ301 GRAND LOBBY 109 AUDIO-VIDEO SECTION DETAIL
1/8" = 1'-0"

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AUDIO-VIDEO SECTION DETAILS

EJ301

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1 FA100 BASEMENT FIRE ALARM PLAN
1/8" = 1'-0"

GENERAL SHEET NOTES

1. LOCATIONS OF DUCT SMOKE DETECTORS AND FIRE SMOKE DAMPERS SHOWN APPROXIMATE. COORDINATE EXACT LOCATIONS WITH MECHANICAL DRAWINGS PRIOR TO ROUGH-IN.

SHEET KEYNOTES

1 IF SPRINKLER IS PROVIDED AT BOTTOM OF ELEVATOR SHAFT PROVIDE HEAT DETECTOR, FOR RECALL USE, ADJACENT TO SPRINKLER.

2 PROVIDE ELEVATOR MAIN AND ALTERNATE LEVEL RECALL CONTROL, FIRE-HAT LIGHT ACTIVATION, AND SHUNT-TRIP CONTROL AND SHUNT-TRIP POWER MONITORING PER NFDA 72 REQUIREMENTS. COORDINATE INSTALLATION WITH ELEVATOR PROVIDER DURING CONSTRUCTION.

3 PROVIDE HEAT DETECTOR WITHIN 2 FT OF ELEVATOR MACHINE ROOM SPRINKLER AND ACTIVATE ELEVATOR SHUNT-TRIP UPON ALARM. COORDINATE INSTALLATION WITH ACTUAL SPRINKLER CONFIGURATION DURING CONSTRUCTION.

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BASEMENT FIRE ALARM PLAN

FA100

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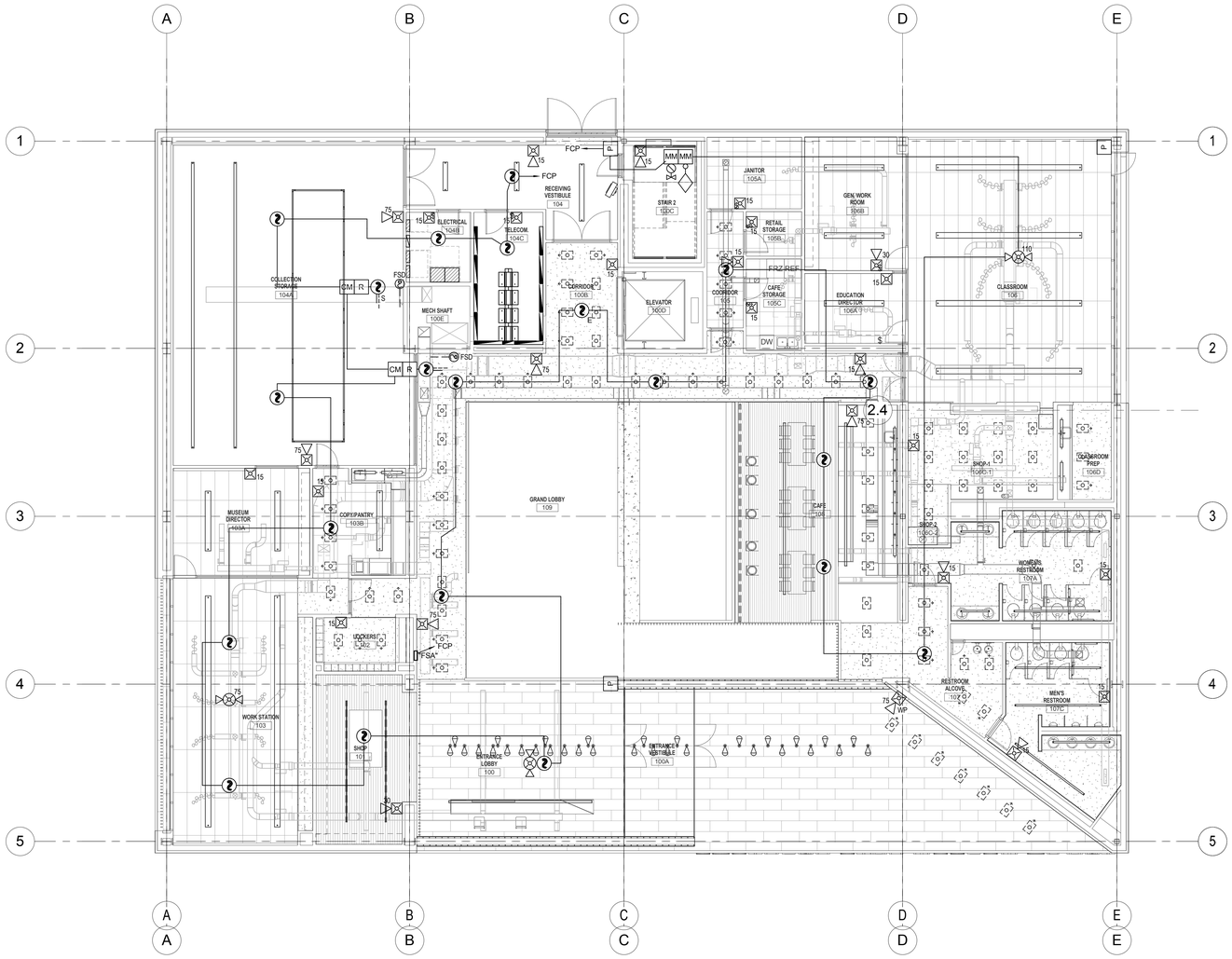

1 FA101 LEVEL 1 FIRE ALARM PLAN
1/8" = 1'-0"

GENERAL SHEET NOTES

1. LOCATIONS OF DUCT SMOKE DETECTORS AND FIRE SMOKE DAMPERS SHOWN APPROXIMATE. COORDINATE EXACT LOCATIONS WITH MECHANICAL DRAWINGS PRIOR TO ROUGH-IN.

SHEET KEYNOTES

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LEVEL 1 FIRE ALARM PLAN

FA101

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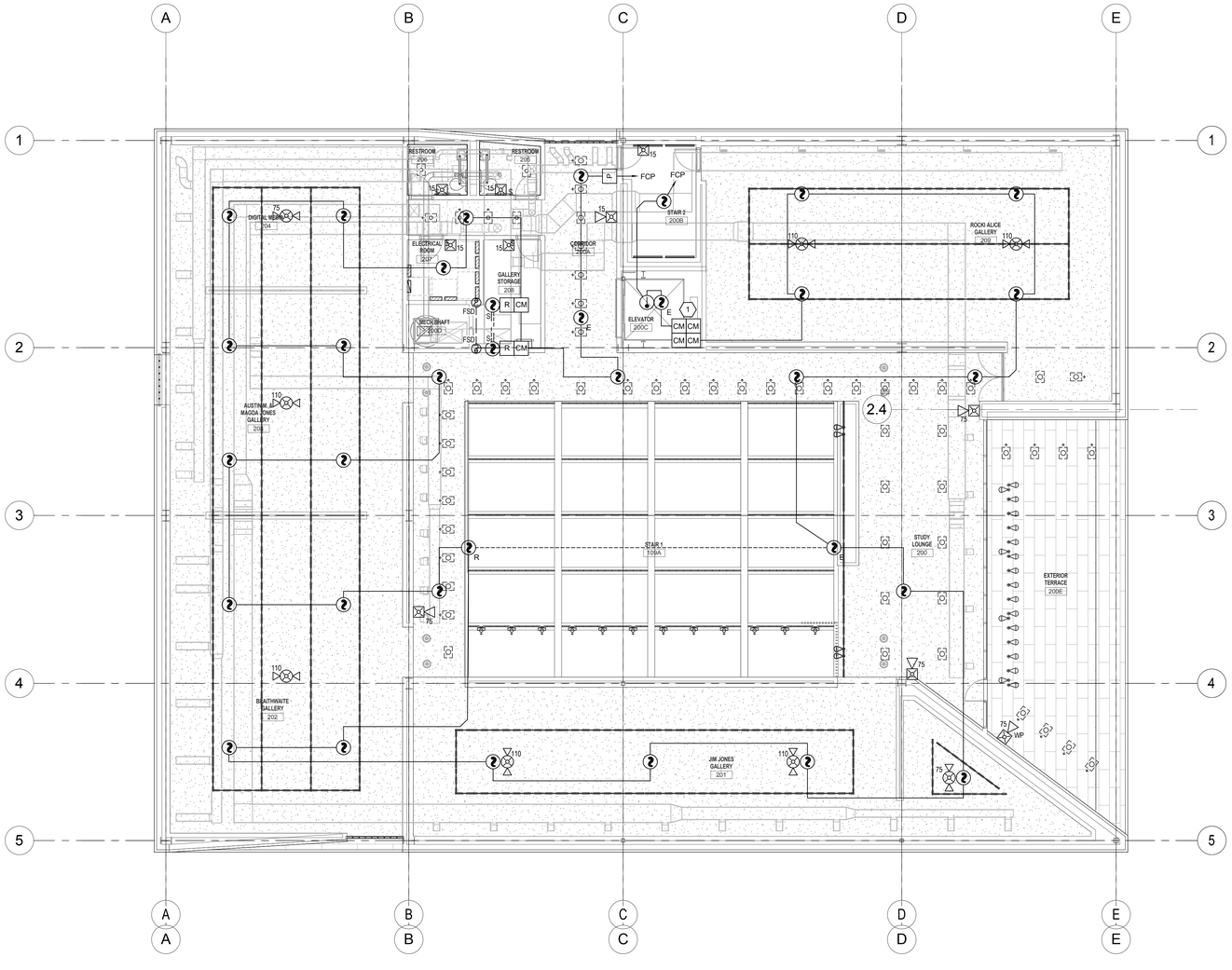

1 FA102 LEVEL 2 FIRE ALARM PLAN
1/8" = 1'-0"

GENERAL SHEET NOTES

1. LOCATIONS OF DUCT SMOKE DETECTORS AND FIRE SMOKE DAMPERS SHOWN APPROXIMATE. COORDINATE EXACT LOCATIONS WITH MECHANICAL DRAWINGS PRIOR TO ROUGH-IN.

SHEET KEYNOTES

1 PROVIDE ELEVATOR MAIN AND ALTERNATE LEVEL RECALL CONTROL, FIRE-HAT LIGHT ACTIVATION, AND SHUNT-TRIP CONTROL AND SHUNT-TRIP POWER MONITORING PER NFDA 72 REQUIREMENTS. COORDINATE INSTALLATION WITH ELEVATOR PROVIDER DURING CONSTRUCTION.

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LEVEL 2 FIRE ALARM PLAN

FA102

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WIRING SCHEDULE

FUNCTION	< 500'	< 1000'	1000'-3000'	> 3000'
ADDRESSABLE LOOP	#18 TSP	#18 TSP	#16 TSP	#14 TSP
POWER LOOP	#14 THWN	#14 THWN	#12 THWN	#10 THWN
SPARE LOOP	#14 THWN	#14 THWN	#12 THWN	#10 THWN
STROBE HORNS	#14 THWN	#14 THWN	#12 THWN	#10 THWN
MAGNETIC DOOR HOLDER	#12 THWN	#10 THWN		
SPEAKERS	#16 TSP	#16 TSP	#14 TSP	#14 TSP

NOTIFICATION SCHEDULE

SYMBOL	STROBE SIZE	COVERAGE	AVERAGE CURRENT	MAXIMUM PER CIRCUIT ALONE
	N/A	N/A	.060A	25
15	15 CD	20'x20'	.085A	17
30	30 CD	30'x30'	.135A	11
75	75 CD	40'x40'	.200A	7
110	110 CD	50'x50'	.225A	6
177	177 CD	60'x60'	.305A	4

ADDRESSABLE LOOP LEGEND

INITIATING LOOP	DESCRIPTION
FA-1	BASEMENT LOOP
FA-2	LEVEL 1 LOOP
FA-3	LEVEL 2 LOOP

INDICATING LOOP LEGEND

INDICATING LOOP	DESCRIPTION
FI-1	BASEMENT LOOP
FI-2	LEVEL 1 LOOP
FI-3	LEVEL 2 LOOP

FIRE ALARM INPUT/OUTPUT MATRIX

OUTPUT DEVICES

INITIATING DEVICES: ZONE	GENERAL ALARM	TROUBLE SIGNAL AT FCP	SUPERVISORY SIGNAL AT FCP	BUILDING HORN/STROBES	ELEVATOR RECALL MAIN LEVEL	ELEVATOR RECALL ALTERNATE LEVEL	ELEVATOR SHUNT TRIP	FAN SHUTDOWN	FIRE DAMPERS							NOTES
1 BUILDING MAIN FLOW	●			●				●	●							
2 BUILDING MAIN TAMPER(S)		●														
3 BASEMENT INITIATING LOOP	●			●				●	●							
4 BASEMENT ELEV. LOBBY / ELEV. EQUIPMENT SMOKE	●			●	●			●	●							
5 BASEMENT ELEV. EQUIPMENT HEAT	●			●			●	●	●							
6 ELEV. BOTTOM OF SHAFT HEAT	●			●	●			●	●							
7 BASEMENT DUCT SMOKE DETECTOR			●													
8 LEVEL 1 INITIATING LOOP	●			●				●	●							
9 LEVEL 1 ELEV. LOBBY SMOKE	●			●		●		●	●							
10 LEVEL 2 INITIATING LOOP	●			●				●	●							
11 LEVEL 2 ELEV. LOBBY SMOKE / SHAFT SMOKE	●			●	●			●	●							
12 ELEV. TOP OF SHAFT HEAT	●			●	●		●	●	●							
13 CIRCUIT TROUBLE		●														
14 AC POWER LOSS			●													
15 LOW BATTERY POWER		●														
16 SYSTEM TROUBLE		●														
17 REMOTE POWER SUPPLY TROUBLE		●														

GENERAL SHEET NOTES

1. PLANS ARE BASED UPON 99 MONITOR AND CONTROL DEVICES PER ADDRESSABLE LOOP. OTHER CONFIGURATIONS ARE ACCEPTABLE SUBJECT TO CONTRACTOR ALLOWING FOR INCREASED WIRING REQUIREMENTS AND SUBMITTAL DRAWINGS SHOWING NEW WIRING CONFIGURATION. MAXIMUM INITIAL DEVICES PER LOOP SHALL NOT EXCEED 75% MAXIMUM ALLOWABLE
2. PLANS ARE BASED UPON THE WIRING SCHEDULE SHOWN. WHERE MANUFACTURER'S REQUIREMENTS EXCEED REQUIREMENTS SHOWN, INCLUDE ADDITIONAL ASSOCIATED COSTS AND SUBMITTAL DRAWINGS INDICATING NEW WIRING CONFIGURATION.
3. PLANS ARE BASED UPON 2 AMPS AT 24 VDC, NOT TO EXCEED 75% (1.50 AMPS AVAILABLE). POWER SUPPLY CAPACITY PER NOTIFICATION CIRCUIT. NOTIFICATION DEVICE LOADS ARE BASED UPON NOTIFICATION DEVICE SCHEDULE SHOWN. INCLUDE ADDITIONAL ASSOCIATED COSTS FOR INCREASED WIRING AND POWER SUPPLY CAPACITY IF LOADS OF ACTUAL DEVICES PROVIDED EXCEED CIRCUIT CAPACITY, OR IF LOAD OUTPUT OF ACTUAL POWER SUPPLIES PROVIDED IS SIZED DIFFERENTLY. PROVIDE SUBMITTAL DRAWINGS SHOWING NEW WIRING CONFIGURATION.
4. FLOW AND TAMPER CONFIGURATION BASED UPON FIRE SPRINKLER DESIGN CONCEPT. FIELD VERIFY ACTUAL REQUIREMENTS. INCLUDE ANY ADDITIONAL MONITOR MODULES REQUIRED BY ACTUAL DESIGN REQUIREMENTS.
5. HEAT DETECTORS WHEN INSTALLED IN ELEVATOR SHAFTS OR MECHANICAL ROOMS FOR ELEVATOR SHUT DOWN SHALL HAVE HEAT DETECTOR WITH LOWER RESPONSE TIME INDEX THAN SPRINKLER HEAD.
6. PROVIDE POWER SUPPLY CAPACITY AS REQUIRED FOR DOOR HOLD OPENS SHOWN.
7. BATTERY CAPACITY TO BE ADEQUATE TO OPERATE 15 MINUTES AFTER 24 HOURS PLUS 25% SPARE CAPACITY.
8. VFD REQUIRES TWO RELAYS, ONE FOR SMOKE CONTROL, ONE SPARE.
9. RUN SPARE LOOPS IN SAME CONDUIT. DO NOT EXCEED 40% AREA FILL OF CONDUITS.
10. PROVIDE DUCT DETECTORS FOR SUPPLY AND RETURN AIR SYSTEMS OVER 2000 CFM. INSTALL DUCT DETECTORS PER NFPA 72 REQUIREMENTS AND PROVIDE ADDITIONAL DUCT DETECTORS DEPENDING UPON FINAL DUCT ARRANGEMENT.
11. PROVIDE DUCT DETECTOR AT EACH FLOOR, PRIOR TO CONNECTION TO A COMMON RETURN AND PRIOR TO RECIRCULATING OR FRESH AIR INLET IN AIR RETURN SYSTEMS OVER 15,000 CFM CAPACITY AND SERVING MORE THAN ONE STORY.
12. PROVIDE MANUAL PULL STATIONS IN BOILER ROOMS AND KITCHENS.
13. PROVIDE ONE YEAR OFF SITE MONITORING INCLUDING ALL INTERFACE DEVICES AND MONITORING CHARGES. COORDINATE WITH BUILDING OWNER'S OFF SITE MONITORING COMPANY.
14. LOCATE SMOKE DETECTORS MINIMUM 3' FROM AIR SUPPLY AND RETURN LOUVERS.
15. PROVIDE SYNCHRONIZED STROBES THROUGHOUT FACILITY. PROVIDE SYNCHRONIZATION MODULES PER MANUFACTURER'S REQUIREMENTS. INCLUDE ADDITIONAL WIRING, IF REQUIRED.
16. INITIATING AND INDICATING LOOPS SHALL NOT SERVE AN AREA OF GREATER THAN 22,500 SQUARE FEET. PROVIDE ADDITIONAL LOOPS FOR AREAS LARGER THAN THIS.
17. ALL OUTPUT DEVICES ARE DESIGNED ON SYSTEMS WITH 2 AMP POWER SUPPLY.
18. HORN/STROBE BASED ON 120 MILLIAMPS. DOOR HOLDERS BASED ON 70 MILLIAMPS.
19. INSTALL DUCT DETECTORS PER NFPA 72 REQUIREMENTS AND PROVIDE ADDITIONAL DUCT DETECTORS DEPENDING UPON FINAL DUCT ARRANGEMENT.

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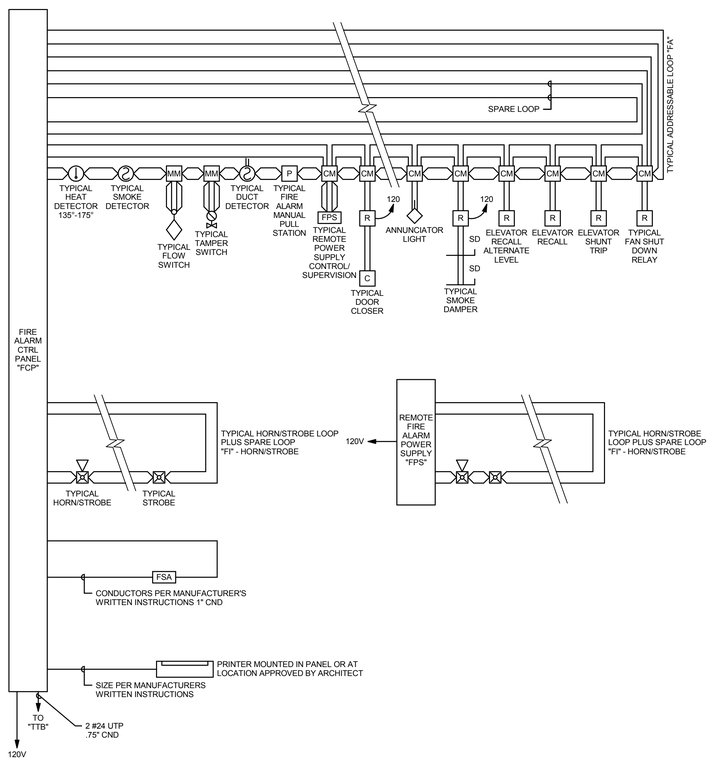
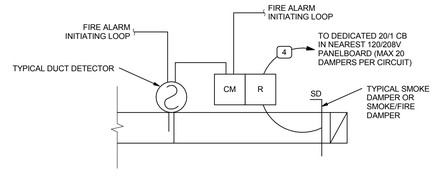


1 FA601 ADDRESSABLE FIRE ALARM RISER DIAGRAM
SCALE: N.T.S.



NOTES:

1. FOR EACH SMOKE DAMPER SHOWN ON PLANS, PROVIDE ALL DEVICES AND WIRING PER THIS DETAIL. THESE ARE NOT SHOWN ON PLANS FOR LEGIBILITY PURPOSES.
2. DUCT DETECTOR WITHIN 5' OF EVERY SMOKE DAMPER TO CLOSE DAMPER UPON ACTIVATION PER IMC REQUIREMENTS.
3. VERIFY QUANTITY AND LOCATIONS OF ALL SMOKE DAMPERS WITH THE DIV. 15 INSTALLER.
4. PROVIDE ONE CONTROL MODULE PER SMOKE DAMPER, UNLESS THE REQUIRED CONTROL SEQUENCE ALLOWS GROUPING OF DAMPERS, IN WHICH CASE EACH GROUPING OF DAMPERS MAY SHARE ONE CONTROL MODULE.

2 FA601 TYPICAL SMOKE DAMPER FIRE ALARM DETAIL
SCALE: N.T.S.

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FIRE ALARM RISER

FA601

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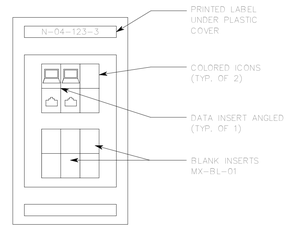
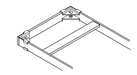
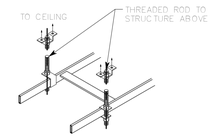


12 WIRELESS ACCESS POINT DATA OUTLET DETAIL
NTS
WAP

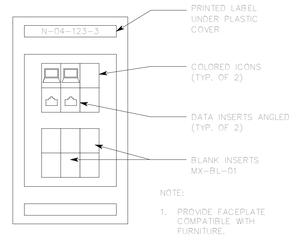


8 CABLE RUNWAY END CLOSING DETAIL
NTS

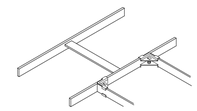


5 OVERHEAD SUPPORT DETAIL
NTS

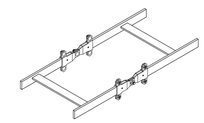
14 CAT 6 PINNING WIRING DETAIL
NTS



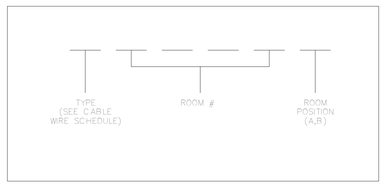
11 TYPICAL DATA OUTLET DETAIL
NTS



7 CABLE RUNWAY SPLICE DETAIL
NTS



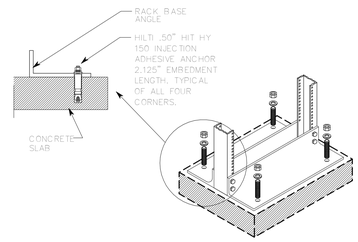
4 SWIVEL SPLICE KIT FOR ELEVATION TRANSITION
NTS



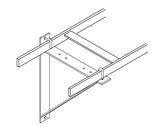
NOTES

1. ALL CABLE/WIRE, REGARDLESS OF LENGTH, SHALL BE LABELED WITH A UNIQUE IDENTIFYING CODE. LABEL SHALL BE PERMANENT AND SHALL BE MACHINE PRINTED (NOT HAND PRINTED). SUBMIT PROPOSED LABEL MATERIAL FOR APPROVAL.
2. PRIOR TO LABEL CREATION, SUBMIT FOR APPROVAL PROPOSED ROOM NUMBER SCHEME FOR CABLE LABELS.

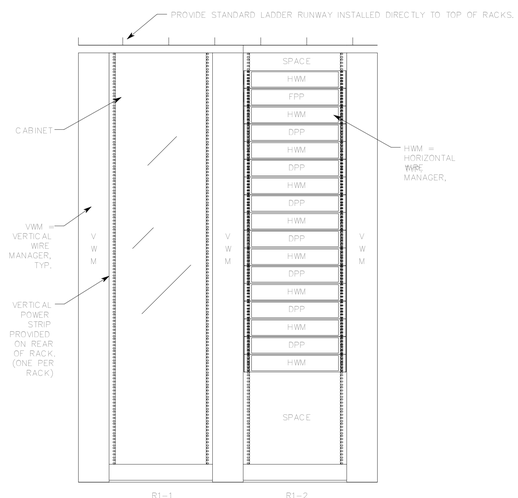
13 CABLE LABEL DETAIL
NTS



6 EQUIPMENT RACK ANCHORAGE DETAIL
NTS

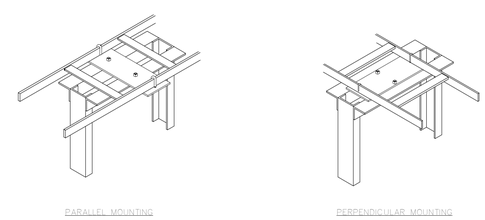


3 TRIANGLE BACKET DETAIL
NTS

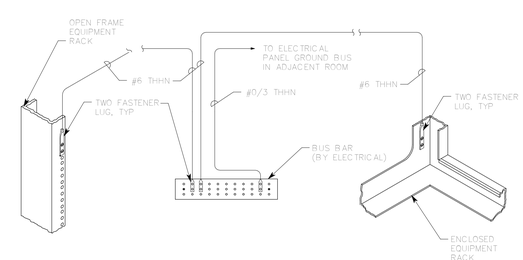


NOTES:
1. RACK LAYOUTS ARE FOR COORDINATION PURPOSES. ALL FINAL RACK LAYOUTS ARE TO BE COORDINATED WITH UVSC PERSONNEL.
2. PROVIDE ALL WIRE MANAGEMENT ACCESSORIES SHOWN.
3. NUMBER OF PATCH PANELS WILL DEPEND ON ROOM.

9 TYPICAL RACK ELEVATIONS
NTS



2 3" CHANNEL RACK-TO-RUNWAY MOUNT
NTS



1 TYPICAL RACK GROUNDING DETAIL
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DRAWN BY:	Author
CHECKED BY:	KDD
OWNER PROJECT NO.:	
GSBS PROJECT NO.:	2010.084.00
ISSUED DATE:	5/16/2012

TELECOMMUNICATIONS DETAILS

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TELECOMMUNICATIONS EQUIPMENT/CABLE LIST

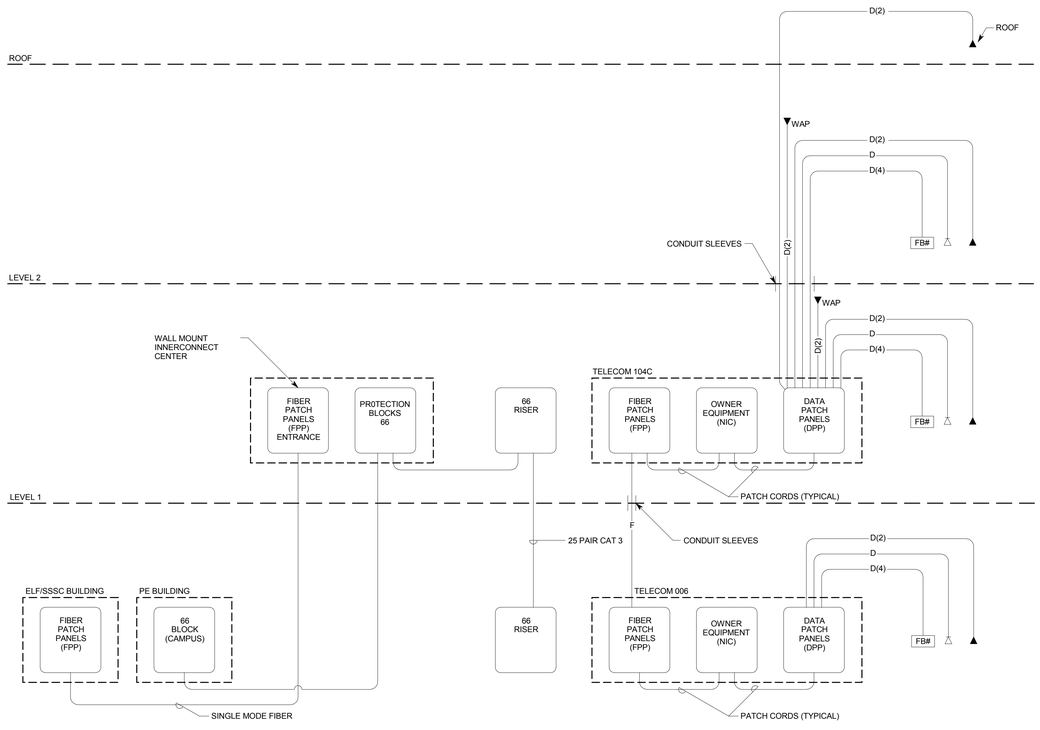
THE ITEMS INDICATED BELOW SHALL NOT BE CONSTRUED AS A "BILL OF MATERIALS". THIS LIST IDENTIFIES ITEMS OF SIGNIFICANCE USED DURING THE DESIGN OF THE CABLING INSTALLATION. WHERE THE ITEMS INDICATED ARE ONE PORTION OF AN ASSEMBLY, THE ENTIRE ASSEMBLY SHALL BE PROVIDED UNLESS SPECIFIED OTHERWISE. PROVIDE ALL MISCELLANEOUS HARDWARE AND SUPPORTS WHICH MAY NOT BE LISTED HERE, FOR A COMPLETE INSTALLATION. COMPARE CATALOG NUMBERS WITH DESCRIPTIONS AND NOTIFY ENGINEER OF DISCREPANCIES PRIOR TO BID. IF CATALOG NUMBERS DO NOT MATCH DESCRIPTIONS, THE DESCRIPTIONS TAKE PREECDENCE. PROVIDE COMPLETE SUBMITTAL FOR APPROVAL PRIOR TO PURCHASING ANY EQUIPMENT OR CABLE. REFER TO SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

SYMBOL	DESCRIPTION	ACCEPTABLE TYPES
	CATEGORY 3 RISER RATED CABLE	SEE SPECIFICATIONS
F	8 STRAND MM FIBER	SEE SPECIFICATIONS
D(#)	STATION CABLE, DATA-CATEGORY 6, WHITE, DATA,	SEE SPECIFICATIONS
FPP	FIBER OPTIC PATCH PANEL - 48 PORT, BLACK, (QUANTITIES OF PORTS AS REQUIRED +25%)	SEE SPECIFICATIONS
	6 PORT DUPLEX LC FIBER PANEL CARD, BLACK	SEE SPECIFICATIONS
	BLANK FIBER PANEL CARD, BLACK	SEE SPECIFICATIONS
▼	DATA OUTLET SINGLE GANG BEZEL	SEE SPECIFICATIONS
	BEZEL INSERTS	SEE SPECIFICATIONS
	CATEGORY 6 JACK-DATA (2)	SEE SPECIFICATIONS
▼ WAP	DATA OUTLET DOUBLE GANG BEZEL (WAP = WIRELESS ACCESS POINT)	SEE SPECIFICATIONS
	BEZEL INSERTS	SEE SPECIFICATIONS
	CATEGORY 6 JACK-DATA (2)	SEE SPECIFICATIONS
	TELEPHONE BOARD, 8' HIGH, FIRE TREATED, PAINTED WHITE	SEE SPECIFICATIONS
	COPPER CATEGORY 6 PATCH CABLES	SEE SPECIFICATIONS
	CAT5 J-HOOKS	CADDY CAT32Z34
	CABLE RUNWAY-12", BLACK	CHATSWORTH 10250-712
	CABLE RUNWAY-18", BLACK	CHATSWORTH 10250-718
	CABLE RUNWAY RADIUS DROP, BLACK	CHATSWORTH 12100-712
	BUTT SPLICE KIT, BLACK	CHATSWORTH 11301-001
	JUNCTION SPLICE KIT, BLACK	CHATSWORTH 11302-001
	ADJ. JUNCTION SPLICE KIT, BLACK	CHATSWORTH 10616-001
	FOOT KIT, BLACK	CHATSWORTH 11309-701
	3" CHANNEL RACK TO RUNWAY, BLACK	CHATSWORTH 10595-712
	TRIANGLE BRACKETS 12", BLACK	CHATSWORTH
	EQUIPMENT RACK, OPEN FRAME 19", BLACK	SEE SPECIFICATIONS
	EQUIPMENT RACK POWER STRIP, 20A	SEE SPECIFICATIONS
DPP	VIZIPATCH PANEL CAT6 (QUANTITIES OF PORTS AS REQUIRED +25%)	SEE SPECIFICATIONS
VWM	VERTICAL WIRE MANAGERS, BLACK, SIDE & CENTER	SEE SPECIFICATIONS
HWM	HORIZONTAL WIRE MANAGERS, BLACK, 2 RU	SEE SPECIFICATIONS
	COPPER CATEGORY 6 PATCH CABLES	SEE SPECIFICATIONS
	CAT6 J-HOOKS	CADDY CAT32Z34
	FIBER CONNECTOR, LC	SEE SPECIFICATIONS
	FIBER OPTIC PATCH CABLES, MULTI-MODE, LC TO LC	SEE SPECIFICATIONS
	1" INNERDUCT-PVC	SEE SPECIFICATIONS
	1.25" INNERDUCT-PVC	SEE SPECIFICATIONS
	1" INNERDUCT-PLENUM RATED	SEE SPECIFICATIONS
	1.25" INNERDUCT-PLENUM RATED	SEE SPECIFICATIONS
PT#	DATA OUTLET TERMINATION TO POKE THRU	SEE EP SHEETS
FB#	CATEGORY 6 JACK - DATA (4)	SEE SPECIFICATIONS

NOTE: ALL RACKS, LADDER, PATCH PANELS, AND ACCESSORIES SHALL BE BLACK IN COLOR.

TELECOMMUNICATIONS SYSTEM NOTES

1. REFER TO "ET" AND "EP" SERIES SHEETS FOR VOICE-DATA OUTLET QUANTITIES AND LOCATIONS.
2. PROVIDE PLENUM RATED CABLE IN ALL AIR PLENUMS. IF A PLENUM RATED CABLE IS NOT SPECIFIED, PROVIDE THE PLENUM RATED EQUIVALENT TO THE SPECIFIED CABLE.
3. ALL CABLE, REGARDLESS OF LENGTH, INSTALLED UNDER THIS CONTRACT ARE TO BE LABELED.
4. THE EQUIPMENT LABELING IDENTIFIED ON DETAILS IN THESE DRAWINGS ARE EXAMPLES ONLY OF THE ACTUAL LABELING WHICH IS REQUIRED AS PART OF THIS CONTRACT. PRIOR TO FABRICATION, SUBMIT THE NOMENCLATURE FOR ALL LABELS TO THE OWNER FOR REVIEW. THIS REQUIREMENT INCLUDES BUT IS NOT LIMITED TO ALL CABLE LABELING, AND ALL EQUIPMENT LABELING.
5. FOR EVERY CABLE PULL SPECIFIED, COIL 5' OF EXCESS CABLE AT THE AT THE CLOSET END, NEATLY COIL AND LABEL.
6. UNLESS OTHERWISE NOTED, INSTALL ALL CABLE INSIDE RACEWAY SYSTEMS. WHERE RACEWAY SYSTEMS HAVE NOT BEEN PROVIDED OR SPECIFIED, INSTALL CABLE THROUGH THE SPECIFIED "CADDIE" CLIPS INSTALLED ABOVE ACCESSIBLE CEILINGS AT THE MINIMUM INTERVALS IDENTIFIED IN THE SPECIFICATIONS. SUPPORT "CADDIE" CLIPS DIRECTLY FROM THE BUILDING STRUCTURE, NOT FROM OTHER BUILDING SYSTEM SUPPORT WIRES OR CABLE.
7. GROUND ALL EQUIPMENT RACKS AS DETAILED. COORDINATE GROUNDING WITH ELECTRICAL CONTRACTOR.
8. IF CABLE/CONDUIT EXTENDS THROUGH LAY IN CEILING TILE, FRAME PENETRATION LOCATION WITH T-BAR GRID, CUT TILE AND FINISH NEW OPENINGS WITH T-BAR. CUT CONDUIT FLUSH WITH TILE.
9. ALL CABLE, FIBER, AND UTP TO TERMINATED ON BOTH ENDS.
10. COORDINATE RACK LAYOUTS WITH OWNER PRIOR TO INSTALLATION.
11. ALL FIBER BUNDLES ARE TO BE TERMINATED IN INDIVIDUAL RACK INTERCONNECT CENTER.
12. WELL IN ADVANCE OF INSTALLATION, COORDINATE WORK WITH ALL OTHER TRADES SO THAT ELECTRICAL EQUIPMENT, OR ITS INTENDED USE, IS NOT OBSTRUCTED BY EQUIPMENT BEING PROVIDED BY OTHER DIVISIONS.
13. ALL VOICE/DATA SYSTEMS CABLE IS TO BE INSTALLED INSIDE MINIMUM 1" CONDUIT. STUB CONDUIT FROM JUNCTION BOX LOCATION TO CABLE MANAGEMENT SYSTEM SPECIFIED FOR ACCESSIBLE CEILING.
14. INSTALL ALL ELECTRONIC SYSTEMS EQUIPMENT IN COMPLIANCE WITH THE MANUFACTURER'S WRITTEN INSTRUCTIONS, SEISMIC CODES, AND INDUSTRY WIDE ACCEPTED PRACTICES. SUPPORT EQUIPMENT WEIGHT FROM BUILDING STRUCTURE. DURING THE SUBMITTAL PROCESS, PROVIDE SHOP DRAWINGS WHICH DETAIL PROPOSED MOUNTING FOR ALL SUCH EQUIPMENT.
15. COMPLY WITH SUU CABLE STANDARDS.



1 TELECOMMUNICATIONS RISER DIAGRAM

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TELECOMMUNICATIONS RISER DIAGRAM

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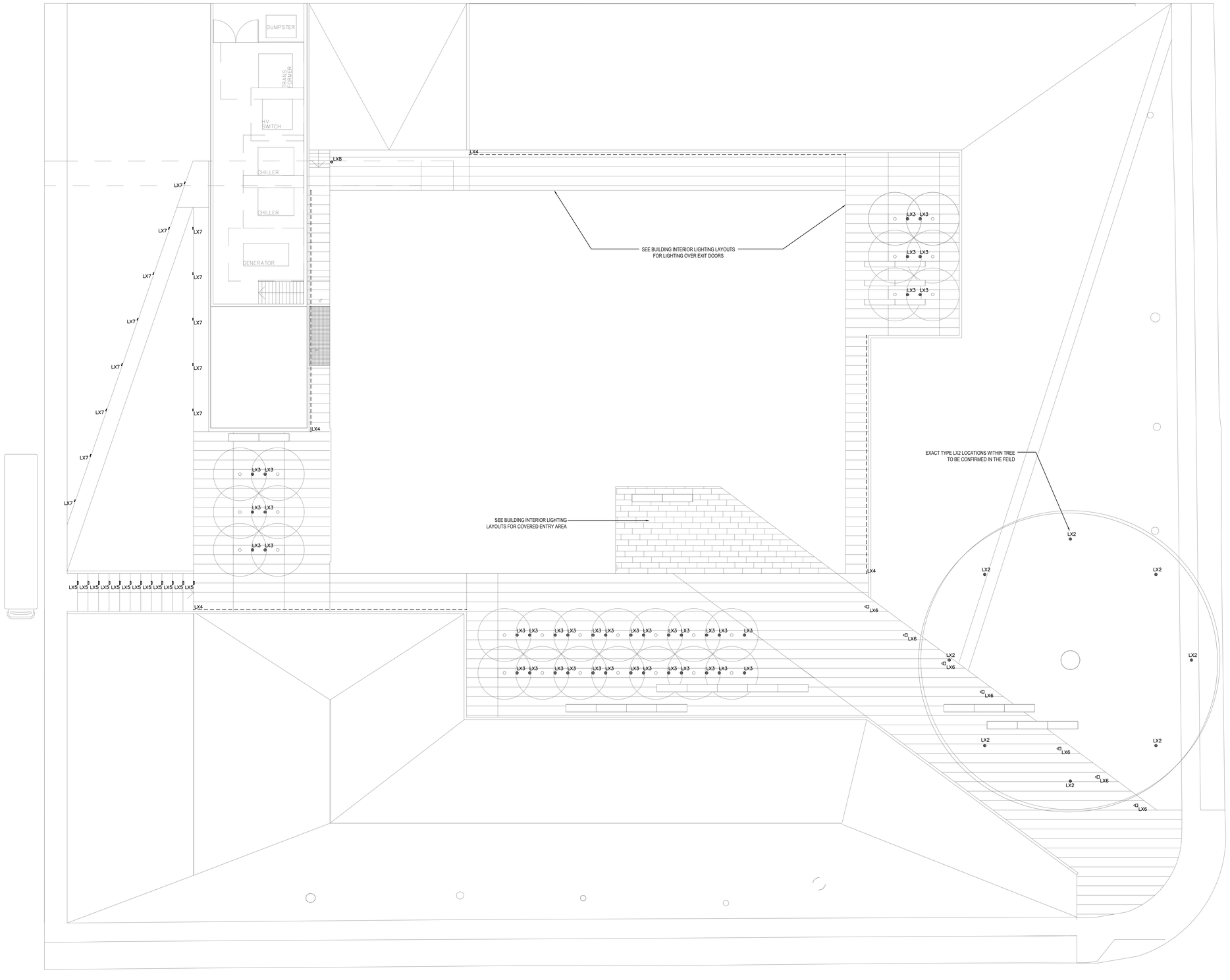

1 SITE LIGHTING LAYOUT
SCALE: 3/32" = 1'-0"

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SITE LIGHTING LAYOUT

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